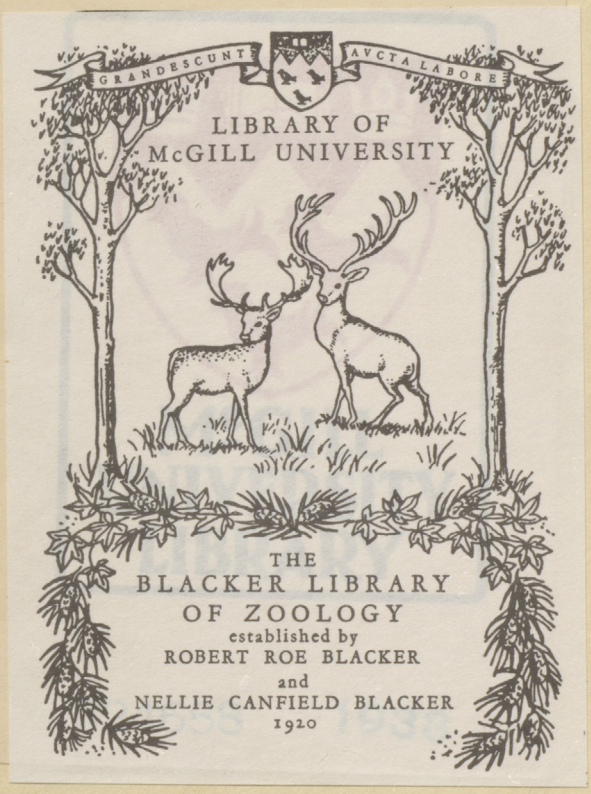
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MY FILL OF DAYS

MY FILL OF DAYS

by

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Pray thou thy days be long before thy death,
And full of ease and kingdom; seeing in death
There is no comfort and none aftergrowth,
Nor shall one thence look up and see day's dawn
Nor light upon the land whither I go.
Live thou and take thy fill of days *and die*
When thy day comes; and make not much of death
Lest ere thy day thou reap an evil thing.

—Atalanta in Calydon.

Introductory Note

*

The contents of this book were written in bundles. When I came to arrange them in chapters, I found more overlapping than I liked. The blue pencil could do its work more thoroughly by attending to the matter and neglecting the exact sequence. I have therefore attached to each chapter the approximate dates to which it refers.

P. Chalmers Mitchell

Málaga,
June 1936

Postscript: Publication of this book, arranged for the autumn of 1936, had to be postponed, as I could not get proofs in Spain nor return to London to revise them. Chapter XX, although written later, has been put before the Epilogue.

London,
November 1936

324658

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CHAPTER I

Dunfermline
1864-1879

*

Maclean Place, Dunfermline, was a grim soil for a growing boy. My father (then the Rev. Alexander Mitchell, M.A., afterwards D.D., by reason of a translation, with notes, of the Book of Job) had been a bookseller and printer-publisher in Aberdeen, the city of his birth, and had engaged in insurance underwriting with a brother who was a prosperous fancy-goods merchant. The insurance business must have been good, from their point of view, for my father throughout his life always refused to insure any of his own property on the ground that it was paying money for nothing. He had been to Germany and France on business trips with his brother and had even gone to the opera. But he remained a hard Presbyterian, and envied the dignified careers of two older brothers, parish ministers in the Church of Scotland. His shop was near Marischal College, and his kind of business brought him in contact with university people, so that by some arrangement, without ceasing to be a bookseller, he was able to spread out the Arts and Divinity courses over a number of years, and about the age of forty became a minister of the Church. Soon afterwards he was ordained to the *quoad sacra* North Church Parish in Dunfermline. Before long, partly by subscriptions including a large contribution from himself and partly from central Church funds, the North Church was endowed and raised to the dignity of a full parish (*quoad civilia et sacra*).

But Dunfermline, a town of hand-loom weavers and miners which had been a home of dissident opinion since the days of Chartism, was a passionate centre of religious sectarianism. The Free Church, which separated from the Church of Scotland at the Disruption of 1843, and the United Presbyterian Church, formed in 1847, served the greater part of the population in numerous and prosperous churches, and there were also a Unitarian chapel, a Roman Catholic chapel and an Episcopalian church. The Church of Scotland, the 'Auld Kirk', had scanty congregations of the poor and of those who claimed to be of better social class. Even the Abbey Church had suffered. My maternal grandfather, the Rev. Dr. Peter Chalmers, a kinsman of the great Thomas Chalmers, had promised, reluctantly and after much correspondence on Church constitution, to walk out at the Disruption. But he was an antiquarian who had loved and studied every stone in the old Abbey and Palace ruins, and during a work of restoration had identified the skeleton of King Robert the Bruce from its sawn ribs and cloth-of-gold cerement; he got no farther than the churchyard gate on the great day. Tradition triumphed over Church politics, and he led back a remnant of his congregation, consoling himself afterwards with writing a history of Dunfermline and the district.

Thus my father found that his ambition to be a parish minister had taken him to a stony field, since the depletion of the older parishes increased the difficulties of a new one. I do not think that he was sociable by nature; he limited contact with dissenters to the most superficial civility, although amongst them were the great majority of the most active, prosperous and intelligent citizens. Even the butcher and the baker had to be members of the Old Church, and we children had to go badly shod as the best bootmakers were dissenters. His antipathies went beyond dissent, and I remember an Olympian household storm be-

cause one of us had carried out some domestic errand at the newly established Co-operative Stores and had flaunted the little metal disk which was given out with the purchase as a trophy of interest. Nor were we allowed to go to the houses of children with whom we became friends, or to bring them home, if they were dissenters.

But I am anticipating. Before there were children, certainly there was a wedding. Soon after he came to Dunfermline, my father courted, and before long married, Marion Hay, the youngest daughter of Dr. Peter Chalmers, of the Abbey. My mother was very young, my father was good-looking, a minister of the Church, had travelled abroad and was agreeable and definitely superior to the average young minister. Moreover it was known to her brother, a writer to the signet in Edinburgh, that he could do his part in a satisfactory marriage settlement. But at the same time there was a young member of the Geological Survey, at work on the coalfields of West Fife, who was a frequent guest at the Abbey Manse. In her later life my mother told me that Mr. Archibald Geikie proposed to her the day after she had accepted my father, and that it was quite possible that her choice would have been different had the order been reversed. Many years afterwards, Sir Archibald Geikie, President of the Royal Society, spoke to me about the pleasant times he had spent in my grandfather's house, and my private knowledge used to give me a queer twist.

My father came from a decent middle-class stock in Aberdeen, but Malcolm Bulloch, editing *The House of Gordon* for the New Spalding Club, insisted that through his mother, who was a Gordon, he was kin to a very old Highland branch of the Clan. He had been accustomed to a mode of life in which amenities were thought wasteful and almost corrupting. His eldest sister, when I was a schoolboy in Aberdeen, gave me sixpence, and then, fearing into what depths of extravagance it might beguile me, said,

'Now, Chalmers, guide it well; consult your father and mother before you spend it.' My mother was the youngest daughter of a gentler house. Her mother was a Hay, a family definitely aristocratic, and with a local history of many centuries. Visitors from the outside world were frequent, and much hospitality was exchanged with local families of repute. As a small boy, I remember even in our own house croquet parties on our rather exiguous lawn in summer, parties of carpet bowls in the dining-room in winter, guests to tea and supper, and occasional visitors from a distance, chiefly relatives of my mother, for whom some kind of fatted calf was killed. It was the custom in those days to offer casual callers a glass of wine, and there were decanters of sherry and whisky on the sideboard; one o'clock dinner was followed by dessert.

But children came quickly; there were eleven in all, of whom I was the third, and the first boy; household expenses increased, and amenities were gradually shed off, ceasing almost entirely after the death of my grandfather. My father's disposition to save became parsimony. Our clothes made us unhappy with other children; I remember blue serge blouses which my younger brother and I were made to wear except when we were at school, a garb unknown in Dunfermline and very offensive to all other boys. We had breakfast of tea, porridge and bread and butter at eight, a two-course dinner in the middle of the day, tea at half past five, and, although the adults had supper at half past nine, we children had been sent to bed before then, with at most a slice of bread and jam. But it was no question of pinching the children; my parents had the same food, except that at breakfast my father had eggs, fish or cold meat, and at high tea, the loathsome chief meal on Sundays, he took a glass of Hollands.

There was no manse attached to the North Church, and Maclean Place, where we lived, was an old-fashioned stone

house within a few yards of the church. The front garden had lilacs, laburnums and ash trees, and behind the house there were apple and cherry trees, gooseberries and currants, as well as a fairly large plot for potatoes and vegetables. At one side there was a courtyard with a wash-house, stable and pigsty and room for our rabbits. It was fortunate for us that our father's study faced to the front, as he was easily disturbed by noise, and had no patience with those who made it. As the family grew, the house was enlarged by the addition of attics, but in the late seventies our father delighted us by announcing suddenly that he had bought a site on the edge of the country and that the plans were ready for building a new house. But a disaster brought disappointment. My uncle William, the Aberdeen merchant, died unexpectedly, and left a comfortable fortune to my father and his eldest brother as trustees, the income to go in equal shares to his surviving brothers and sisters. My father had already built up what was a considerable fortune for a Scottish minister. A great part of my uncle's money was invested in City of Glasgow Bank shares, and my father also was a shareholder. The bank failed, bringing widespread ruin to Scotland. The liability was unlimited, and after weeks of increasing gloom it became plain that all was lost. I was precocious, and in the excitement of the time was an unnoticed witness at many of the conferences with friends, other local victims, lawyers and so forth, which were held, suitably for occasions so unusual, not in the reserved territory of my father's study, but in the dining-room.

Two I remember vividly. A small and bearded minister who held some sort of minor clerical post in the district, and occasionally preached for my father, came to call. I was disposed in his favour because he had shown me how to make what he called a panorama—pictures from magazines pasted on a long strip of cloth, so that they could be wound

from one spool to another in front of a proscenium, made of a soap-box decorated with a drop curtain and valances of green and gold paper. His visit to my father was professional. As a friend he mourned with him over his losses, but riches were of this world and the only real treasure was laid up in heaven. Might it not well be that the failure of the City of Glasgow Bank was a blessing in disguise, with a special message for my father? And I think that he was on the point of offering to pray with him. But parsons, like doctors, are apt to be bad patients; a glint in my father's cold blue eyes stopped further events, and the interview ended in a very stiff farewell. The situation certainly was uneasy, as the visitor's behaviour was quite in clerical order. I myself, as a boy, was a victim of severe toothache and at family prayers often writhed on my knees whilst my father interceded with Providence on my behalf, with the reserve that in any case the pain might be made a blessing to me.

The other remembered interview was with one of our kindest friends, a prosperous and pious coal-company manager. A scheme had been proposed in the *Scotsman*, that, in view of the widespread domestic and commercial havoc caused by the bank failure, the Government should be asked to sanction a public lottery to replace the losses. To me it seemed an excellent scheme, and I contemplated winning a large prize myself as well as seeing the family fortune and the family peace restored. The visitor would have been an influential support to the scheme, but our friend not only 'as a Christian' could not countenance any form of gambling, but somewhat roundly hinted that my father's personal interests were leading him into sin. In the end many of the victims were allowed to make a composition, and something was saved from the wreckage of my father's fortune. The North of Scotland Bank, the head manager of which was an old friend, took over some of my father's securities and advanced their money value to the liqui-

dators at the rate depressed by the crisis, allowing my father to repay the loan gradually. He loathed debt, and the burden of repayment, added to his natural disposition, made the domestic financial atmosphere stringent. On the other hand, we were not unhappy, as might have been the fate of pampered children from whom luxuries had suddenly to be withdrawn.

Our life was isolated except for school, and in those days there were no organised games at school. In summer we spent a month in lodgings at the seaside or in the country. We learned to swim, and when public baths were opened in Dunfermline my brother and I, with paternal sanction, spent such leisure as we had swimming, diving and on the trapeze. Somehow I had got hold of a boy's guide to chemical experiments, and without parental sanction played with reactions in a very unscientific way. I found that a surreptitious gas-jet could be obtained by piercing a gas-pipe where it passed close to the hearthstone of my bedroom, and that kitchen soap was an efficient way of plugging holes. But I specialised in fireworks. There was a shop which permitted itself to sell me coarse-grained blasting powder in seven-pound packages; with that as a basis, iron filings to give sparks, and strontium, nitrate of soda, etc., to supply colour, I prepared a great display for two annual occasions, my birthday in the end of November, and Christmas Eve. My father deigned to be present at these events and to enjoy them. I never understood why he did not question me as to where they were made, or how much they had cost. My mother knew more about that. Also I wished to invent a perpetual motion machine, and made many rough models, the failure of which I was sometimes able to understand, but often set down to clumsy workmanship and makeshift materials. The system from which I expected most, and which, in time, I constructed with complete confidence, was simple. A small water-wheel made out of a bobbin, to

which I fixed tin flanges, was made to turn by water siphoned out of a bowl above it, the waste water falling into a bowl below it. The theory was that by a series of bowls and siphons the water should gradually be siphoned back to the original reservoir. But I could not get the intermediate bowls and siphons to bridge the gap between the low level and the top level, and gradually realised the error in my scheme; although it was long afterwards, when I was taught physics, that I drew the general inference from my failure.

Sometimes in summer my father shed his solemn aloofness and took us for long walks in the country. He knew some mineralogy, but chiefly of volcanic highland rocks, and he had not the art of interpreting scenery by the natural forces which have moulded the materials. He knew nothing of birds or insects, and the least possible about flowers, so that there were no distractions or excuses for loitering. Moreover he was an ardent and vain pacemaker, proud of outpacing us on the stiffer stretches, so that there were drawbacks to his companionship. But he was a keen and experienced maker and flyer of kites, and there were good days when a brisk wind induced him to bring out the last kite he had made. He did the running necessary to get it in the air, but we assisted in loading the tail and in sending up 'messengers' when the kite was soaring at the full length of the string. And there were pleasant days in winter. Like many people looking back, I recall the winters as harder than they are now. Year after year I watched for the coming of snow, and it always, as I remember, came at the very latest by the afternoon of November 23, my birthday. There were heavy falls, and my brother and I rolled snowballs our own height in diameter, and, cutting them into blocks with a garden spade, built Esquimau huts of beehive shape into which we could creep. Skating was a pleasure to my father, and as soon as we were big enough he gave us skates and

took trouble in teaching us. It was not skating of an elaborate kind, but competent. We had to keep our bodies straight, the disengaged leg parallel with that on the ice, the arms by the sides. On either edge forward or backwards, on threes and W's forwards or backwards, it was a crime to help a turn or a curve by any steering movement of the arm or leg. There were several lochs within easy reach large enough to give the feeling of adventure as we explored their unknown edges from the accessible landing place.

Sundays, summer or winter, so far back as I can remember them, were unrelieved boredom, and in my case they were aggravated by a resentful sense of being in constant disfavour. I must have been born without what is called the religious instinct. Later on, in a French or Spanish Catholic church, the scents and sounds and the colours in their dark setting, and above all the atmosphere of the people, peasants or gentry, being easily at home, because it was their own place and not because it was an uncomfortable duty to be present, have led me to apprehend the possibility of some reality in religion, and in the central ceremony to feel impinging on me the crowd consciousness of a miracle. But there was no such extrinsic emotion in the dull ugliness of a Presbyterian church, or in the congregation entering resolutely, exuding a sense of duty, and spilling out as turbulently as could be done by the Scotch in their Sunday clothes.

I had a physical disability: I had no sense of tunes and found no relief in joining in the hymns and psalms. Neither my parents nor I were conscious of this; it was discovered and reported on at school when I must have been at least twelve years old. Even then my father did not believe it, until he had summoned a teacher of singing, who in his presence failed to get me to follow him in a simple scale. I may add that my short sight similarly was discovered and

reported on only at school, where it seems that the contrast between my general standard of intelligence, and my failure to name rivers or towns on a wall map, surprised the master. But this defect also was not admitted until I was tested by my father himself with a watch placed at different distances. And so my listlessness and inattention in church and during the Sunday hymns at home were treated with a severity that I resented. There was one occasion, an amazing revelation to myself, as no doubt it was to my parents. I was asked what I should do in heaven as I did not join in the singing. I answered straight from the depths of my subconscious resentments: 'But I don't want to go to heaven.' There was a storm, historical even in our house, but my father never punished me physically and, although I wilted judiciously, there was an internal glow of comfort as from a problem solved. I was free from the sense of guilt and learned to daydream in church and at home with an innocent face. Certainly such a defence was necessary, but it did little to relieve the boredom. On Sundays breakfast was at eight, followed by unusually long family prayers. At nine my father went off to take a weekly service in the town gaol, and on his return went straight to his study, I think to revise his sermon. A few minutes before eleven we assembled for the solemn walk to church. The service lasted until half past twelve. At one there was a slight midday meal, generally soup and milk pudding. Afternoon service began at two, and was a repetition of the morning service with a different sermon. It was followed by Sunday school, which lasted an hour, and then at five came the chief Sunday meal, tea with a dish of meat or of fish, always cold.

At six, possibly not every Sunday, but a good many Sundays in the year, there was another Sunday school held in an outlying district about a mile away. To all of these religious services I was forced to go. The district Sunday school was the only one with any amelioration, as the walk

to it was an opportunity of seeing the outside world. On Sundays we were not allowed outside the house and back garden except in that evening walk and the few yards to church; and the window blinds in front of the house were kept drawn all day, so that one could not even have a glimpse of freer people. But there was another merit about the district school; it was in a poor neighbourhood with rougher children, and the class in which I sat was beyond reach of my father's eye and taught by a good-natured idiot. The boy who sat next to me was a lad of fifteen or sixteen who had actually been in gaol, I think for being caught stealing turnips, and naturally was proud of the distinction. We whispered together and I was never tired of rehearing the whole adventure, eliciting fresh details every time. How he was caught; his fear of the police and relief in finding that they were decent people; what the bailie ('John Soutar, ye ken, who keeps the sweetie shop in the Kirkgate') had said; how the police saved him the ignominy of being led to prison and let him go his own way to meet them at the prison gate; how when he got there first, they said, 'You have won the race'; the details of the prison cell and the prison food. All most stimulating to a boy of ten or eleven, avid of information and with a taste for raw turnips himself. Possibly the idiot teacher left us undisturbed because he thought that the minister's son was having a good influence on the criminal youth. But undisturbed we were left, except when it came to our turn to repeat the text or the portion of the Shorter Catechism of the day.

There was also an annual outrage, now I think abolished: the fast day, the Thursday before the summer Communion Sunday. This was in all respects an extra Sunday, except that there was no Sunday school. There were morning and afternoon services in church, and the rest of the day was a strict Sunday with blinds down and confinement to the house and the back garden. It was followed by something

even more revolting, an additional church service on the evening of the Saturday. These were the more trying, because much of the outer world, more than on real Sundays, was free, and people could be seen passing in the sunshine.

So far back as I can remember, I was a great reader, and until I went to Aberdeen in my fifteenth year I was dependent on chance. My father's study was lined with bookshelves, but these were sacrosanct. I do not remember his ever giving me advice or suggestions as to books, or indeed exercising any censorship, except of course on Sundays and fast days. But he was devoted to Macaulay's *Lays of Ancient Rome*, and often read them aloud to us. That I enjoyed and, although I have never read them myself, I can still repeat 'the ashes of his fathers and the temples of his gods', and other sonorous lines. But he had a habit that secretly enraged me. Sometimes he would find me lying on the rug in front of the fire poring over a book. 'It is bedtime, Chalmers.' 'I am just finishing a bit and then I'll go.' 'Let me help you.' He would take the book, sit down, while I stood beside him, and he read aloud, making me read with him. But he carried over the belief in literal inspiration of the Scriptures to secular print. I was a skipper and a taster. Once, as a birthday present, I had been given a book of stories in which, in every clause or sentence, some simple noun, verb or adjective was replaced by a dash. That was a delight to him and a silly abomination to me. And next day, or surreptitiously in bed, I had to reread by myself in my own way the bits of the book with which he had helped me.

My mother, although more cultured and better educated, did think it right, so far as family duties gave her time, to exercise a strict censorship. There were books in abundance in the dining-room and the drawing-room, but I was forbidden Shakespeare, whom I came to know first at school in carefully edited texts, and many other books,

for reasons unknown to me. But there were magazines, *Good Words*, a Church of Scotland magazine with some tolerable reading, a missionary paper called *China's Millions*, with some excellent stuff about massacres and the torturing of missionaries. There were the whole of Walter Scott's novels, and, passed by some oversight, Lemprière's *Classical Dictionary*, which confirmed and expanded many passages in the Bible. The Bible, I should say, was read to us, a chapter daily, from beginning to end, not omitting even the genealogies or the robuster parts of the Old Testament. And above all there was a bound set of volumes of what I think was called *The Penny Magazine*, from which I acquired a fund of general knowledge. I recall a series called *The Cid*, which ran through two volumes, and must have been John Hookham Frere's version of Juan de Velorado's *Cronica del Cid*. There was a sequel. From some question I asked, my mother took notice of my interest in Spain, and told me of Borrow's *The Bible in Spain*, offering to buy it for me. But I refused, suspecting Christian propaganda behind her kindness. And such was my inhibition against the title that more than fifty years afterwards, when I came to live in Spain, the book made a dusty appeal to me, although it was more about Borrow than about the Bible, just as *Lavengro* and *The Romany Rye* are much Borrow and little real gypsy.

But what about formal education in those days? I was taught to read, write and count at home. For a time I shared a governess, of whom I can remember nothing, with my two older sisters. Then they were sent to school in Edinburgh, and afterwards to Germany, one of them subsequently being among the first lady graduates of St. Andrews University. In 1870, when the Education Act had come into operation in Scotland, my father was a member of the first School Board, and I was sent to Dunfermline High School. Except that it brought me in contact with other

children, it did little for me in the first few years. The system was new, and probably creaked. Before one of the inspections, our teacher found us weak in geography, and so divided the class into two, one half to revise Europe and Africa, the other, Asia and America, very frankly taking us into his confidence. The examination was oral and the class would pass if half passed. We were drawn up in a row for the inspector, alternately a Europe-Africa and an Asia-America boy, so that if one failed to answer, his neighbour would probably oblige. History was nothing but dates. Parsing was an interesting game, analysis of sentences still better, but best of all was the reading to us twice over some simple tale which we had then to write from memory in our own words; but the gilt was taken off the gingerbread by the allotment of more marks to handwriting than to matter. Arithmetic baffled me, as I had no memory for rules unless I saw some sense in them. But Euclid was easy and had a meaning, as you could prove the propositions by cutting out triangles and squares of paper. Elementary algebra was a joy, as I soon found that you could solve the verbally tricky arithmetical problems by using x's and y's.

In the higher classes I had luck for a time, as the headmaster was George Dunn, afterwards Chief Inspector of Schools in Scotland. He quickened and kept my interest, and on one fascinating day he told us about our own insides with the help of coloured chalk drawings on the blackboard. He described brain and spinal cord, heart and lungs, kidneys and bladder and the whole alimentary canal, telling us briefly what they did and where they were. It was the only piece of natural science that came my way either at school in Dunfermline or in the much more highly organised Aberdeen Grammar School. All we children talked about it at home; it was thought improper for children, and I believe that Mr. Dunn was given a discreet hint that it was a subject carrying no marks.

Mr. Dunn left for a higher post, and was succeeded by a bland and bearded highbrow, Thompson by name, highly qualified for everything except discipline and teaching. Under him I dragged on to Caesar, French grammar, elementary Greek and quadratic equations, but my only real interest was in miscellaneous reading. My father seems to have discovered that I was not getting on, and, still hoping that I was not a fool, took me in hand for an hour every evening. He believed in learning grammar by heart, the method being for me to say aloud with him, over and over again, declensions of nouns and conjugations of verbs. But my absence of ear for quantities seemed to him obstinacy, and my failure to retain what we had declaimed, sheer badness. The hours were irritating to him and a torment to me. But for books, and my appetite for life, I should have reached the mood in which schoolboys have hanged themselves, chiefly I believe out of revenge. He consulted an old friend, the headmaster of the Aberdeen Grammar School, and in the summer of 1879, when I was in my fifteenth year, told me that he was taking me to Aberdeen to board with a master and attend the Grammar School.

Chapter II

Aberdeen
1879-1884

*

My father had already taken me to Aberdeen when I was a very small boy to be present at the wedding of a niece. On the afternoon before the wedding, things went on which were a surprise, as it dawned on me that my father was not the absolute ruler of the universe. There were three 'living rooms' on the entrance floor, a dim and curtained drawing-room, a dining-room and a smaller parlour. In the dining-room there assembled the father and mother of the bridegroom, the bridegroom and a friend, of the one part, the bride's mother, my father and a friend, of the other. I was left in the parlour and could hear raised and angry voices through the wall. The marriage settlement was being discussed, and the affair was not going well. Presently the meeting broke up; the bridegroom's party was led into the drawing-room, and my father in a towering rage brought his side into the parlour. He declared in the tone before which we all quaked, at home, that the other side were trying to deceive them, and the marriage must stop. To my awed surprise his sister broke out on him, telling him that he had always been a hard man, and that it was her money, and he must come to terms. After several visits of a delegate from one camp to the other, we all returned to the dining-room. An agreement had been reached, and I was sent upstairs to bid the prospective bride come down. We had sherry, I being given a sip, and then a sumptuous tea. All was friendliness and laughter, and next day the wedding duly took place.

But on this second visit to Aberdeen my father was at his most genial. He took me first to the house of his old friend, the Rev. Alexander Martin, then Rector of the Grammar School, who was full of gentle friendliness. After midday dinner he took me alone into his study and put me through my paces without confusing me. At the end he said smiling: 'I'm feared you don't like Latin and Greek, but you'll have to turn to them, laddie; I'll put you in the fourth class and you'll do fine.' And he gave me a Greek lexicon which he said had belonged to the great Dr. Melvin. He must have encouraged my father who began to treat me almost as a grown-up friend. And for the rest of his life (he died in 1902 whilst I was dangerously ill with typhoid) he treated me well, almost generously, although there were occasional violent storms, financial and religious. In the long intervals between these, we talked together as one man to another with apparent freedom, but always with reserve on my part because I moved quickly and far from his point of view about everything. And from the time he placed me in the Grammar School in Aberdeen, in no single respect did he ever guide my career with advice, with approval, or disapproval. Actually, although at root an affectionate father, he was unfitted to be a parent. No doubt I was unfitted to be a son.

Charles Sleigh, the mathematical master in whose house I boarded, was a rigid disciplinarian. We had formal and brief morning prayers at eight, then breakfast, and then a sharp fifteen minutes' walk to school, which began at nine. Dinner was at two, good and plentiful, but monotonous; school again from three to five, then tea, after which we all sat round a table, at which Sleigh presided in rigid silence over our home work, until supper at nine, soon after which we had to go to bed. But Saturdays were wholly free after we had finished and submitted tasks set by Sleigh, in my case a Latin version, that is to say a translation into Latin,

as it was found that the algebra or Euclid problems set to the others were done by me too quickly and correctly. We could be out to dinner and tea if we pleased, on condition that we gave notice beforehand, and we had to be in by eight, to do a task which was to be heard on Sunday morning. Mine was always twenty lines of *Paradise Lost*, and the penalty was that unless I got it right before church on Sunday morning, I had to stay in on Sunday afternoon and do another twenty lines, a penalty which, after discovering that it was strictly enforced, I did not incur twice. No questions were asked as to where we had been or what we had done, but Sleigh had sources of information on which he acted with a calm and efficient menace. One Sunday morning, for instance, he said to me: 'You were on the road to Torry yesterday; you know what I mean; that must not happen again.' And it didn't. What had been happening was that two or three of us had got hold of some old muzzle-loading pistols and were practising firing, doubtless at some peril to our hands. I heard a similar grave warning given to another boarder, a much older youth, but it was not Sleigh's habit to indicate the offence, and a few weeks afterwards we were told one morning that the youth in question had not taken a warning and that we would not see him again. 'And that won't hurt you,' added Sleigh.

I was happy at the Grammar School. It was still an old-fashioned curriculum with no science and no laboratory work; but the masters in every subject were specialists and as we were working for no external examinations, but only for the school terminal examinations, they had a free hand and were able to aim at our minds rather than our memories. Moreover, the old Scottish tradition, which served the country and the world well and has been worn thin by modern conditions, ruled; not too much trouble was taken with boys who, in general, or in any particular subject, were stupid or inattentive, full efforts being reserved for the

others. For me it was an excellent year and I was so engrossed by school work that, even had a library been available, it would have been superfluous. With one odd exception I did no outside reading. Sleigh, although a kind husband, had severe ideas about how women should spend their time. The daily paper was locked up when he went out in the morning, and there were no novels in the house. Mrs. Sleigh confided in me, and engaged me to buy every week *The Family Herald Supplement*, a weekly story in the luscious style of Ouida but without the genius of that unjustly despised authoress. My reward was that last week's *Supplement* was always passed secretly to me, to be destroyed after I had read it.

At school I had come as a stranger into a group of boys who had been together through successive years. Edward Fiddes, then a tall and serious youth, who, after passing through the universities of Aberdeen and Cambridge, had a successful career in the University of Manchester and is now Professor *emeritus*, was the *dux* of the class. Although his father and mine were old acquaintances, I never became intimate with him, and saw nothing of him out of school. But in a few weeks I was in a group of friends. We bathed in the river (for some reason Sleigh had forbidden me to bathe in the sea, but had said nothing of the river), ranged the docks, watched the herring boats coming and going, and took long walks into the country. There were no organised games, and no school supervision or cognisance of our idle hours. But the boys were a good set, and our amusements were simple and wholesome. Apart from the pistol practice, which I had to forgo, we had only one amusement which might have got us into trouble. Cargoes of resin used to come to the docks, for the combworks in Aberdeen. As the barrels were lowered from the ship, their staves bursting, great shining drops of solid gum used to roll on the quay. These we could not resist, and had anxious work

eluding the dock police. Our spoils served two purposes. You filled the palm with powdered resin, placed a lighted match between the fingers with the flame over the powder, and with a quick movement jerked the resin through the flame into the air where it made a huge and glorious ball of flame. You bored a small hole in the bottom of a tin canister, thoroughly resined a couple of feet of stout twine, passed it through the hole from the inside until the knotted end was reached; then by holding the tin lightly by the open end and drawing the cord between the thumb and forefinger pulsating noises of great volume and unpleasant penetration could be produced. At school these devices were only toys, but later, at the university, they were of high utility in torchlight processions, rectorial elections, and demonstrations outside the houses of unpopular professors.

Perhaps the emotional response to beauty comes to the developing individual before mental awareness of it. I do not know, but awareness came to me suddenly and unexpectedly in the Latin classroom at Aberdeen Grammar School. We were about to begin the second book of the *Aeneid*. It was a hot and dusty afternoon. The master, a temporary appointment if I remember aright, was a nervous wisp of a man, with a pale face and a ragged beard. He was a wretched disciplinarian and, like all boys, we took merciless advantage. But a limit had been reached, and he had ordered the most unruly boy to leave the room. The boy refused; the master rushed at him and, after a fierce struggle, managed to eject him, and returned to his desk, flushed, panting, his tie torn from the collar, a lamentable sight. After a few moments, during which we sat stricken with horror, he began to read:

Infandum, regina, jubes renovare dolorem,

and so on with the lovely lines, translating phrase by phrase. I suppose that he was taking comfort in beauty for his offended self-respect; he was in a world of his own, but his

emotion radiated out to us. I could have sat until the stars rushed down from heaven, and something new had happened to me.

At the end of my first year there were examination papers in each of the subjects. I came out first in most of the subjects and very easily first in the aggregate. Martin and Sleigh were delighted, and they and his old friend Fiddes, whose son I had beaten, wrote usefully to my father. I was received at home almost with gratitude. It would have been the normal course to stay another year at school and enter the university with those of my classmates who were going to college. But my father accepted my suggestion that it would be a waste of time to spend another year at school, and of money to remain a boarder in Sleigh's house. And so, at the beginning of the winter session, just before the end of my sixteenth year, I became a Bajan, or first year's student at King's College in the University, and a free man living in lodgings of my own choosing.

Probably under the new dispensation more is done for students, but in my time there were no rules and no supervision outside college. We attended the classes and otherwise we were our own masters. There were a choral union, a debating society and a literary society, recognised, but managed by the students themselves. They met once a week, the opening meeting of the debating society on the first Friday of each session being a great occasion, when a delegate from each of the four years read a paper, the aim of which was to cram in the greatest possible number of puns and verbal quips. How the Bajan delegate was chosen, I do not know; coming as a stranger into a class most of whose members had been together in the same schools, I was out of touch with everything. But I attended, cheered our own man with enthusiasm and duly helped to jeer at the representatives of our seniors. But the class soon got together and I was allowed to take my share in communal affairs.

It was a strange life, and it is surprising to recall how little amusement we had, and how unorganised was the time not spent in classes. After early breakfast there was for most of us a long walk from the New Town to Old Aberdeen. There were lectures from nine until eleven, and then a short interval in which we used to stream to a bun shop, and then more lectures until two-fifteen. After an early dinner almost everyone worked until bedtime, with an interval for tea and supper. There was no habit of visiting each other's rooms; there was no students' union and no clubroom. On Friday evenings there were the meetings of the societies. Once a year the choral union gave a concert in the town hall. At the end of the session each class had a convivial supper with one or other professor as guest. The Principal once a year gave a breakfast party; several of the professors invited their prizemen to luncheon at the end of the session. At very rare intervals when a good travelling company came to Aberdeen we would go to the gallery in the only theatre. On Saturdays there were no lectures. Later on a few of us joined a group of English medical students in founding a boat club, and before that we used to go up on the river Dee in Canadian canoes, or occasionally to sea in hired single-sailed boats. There was always football for a few, but nothing in the way of important matches to which crowds went, and of course there were no cinemas. Pat. L. Rose, a distant kinsman of mine, who intended to go on the stage, persuaded me to join in founding an amateur dramatic society, which had a brief existence. He was the only one of us who had the faintest notion of acting or of where to get acting copies of plays, but he soon had us all in hand. I, from incapacity for anything else, became stage manager and prompter and, as the day approached for our first and only performance, my chief duties were to keep the stage carpenters sufficiently drunk to consent to do any work, and not too drunk to put up the scenery.

Sundays were equally unoccupied. For a few Sundays of the first session, I went to college chapel, but there was nothing there to attract me, and one visit to a Unitarian chapel sufficed. In the morning some of us used to walk to the old Bridge of Don where we talked of everything under the sun, or late in the afternoon to the village of Cove, some six miles off, where we had a 'tea' of salmon and whisky or beer, returning after dark. Later I and James B. Peace, afterwards a fellow and tutor of Emmanuel, Cambridge, and Printer to the University, founded the Ethical Society, the principal object of which was to meet in a room in a café on Sunday evenings at church time. We persuaded one of the more open-minded professors to be honorary president and we had a few good papers and animated debates. But so far as Peace and I were concerned, the Ethical Society didn't last long. Its name, I suppose, attracted students more seriously minded than its founders, and after one essay, written by Peace and myself in collaboration and read by one of us, a special meeting was called, and I, the founder, and Peace, the honorary secretary, were formally expelled.

Our life at Aberdeen was thus a hard but possibly hardening experience. Most young men require some sort of convivial outlet. In our case it could be got only in public-houses. There was a large bar in New Aberdeen, patronised chiefly by medical students, and filled almost every night by a crowd ready at any moment to burst into choruses, some of which were decent. We of King's College were more modest. There were two or three inns in which, in an upper room, more or less reserved for us on Friday evenings, small groups used to meet. Naturally there was some drinking, but very little, and no one ever had beer, wine or whisky in his own rooms. Although there were no examples within my knowledge of students who worked on the home farm all summer and came to Aberdeen at the beginning of the session with a barrel of oatmeal, in most cases there had

been an effort to get to the university either by the winning of a bursary or by home economies, and very few had any money to spare. Moreover it was almost universal that each student had a definite goal, the Indian Civil Service, the Church or schoolmastering, and was resolute about working for his object. 'Wasters', as we called them, were rare. I knew of none amongst the 140 odd students who entered with me. There were a few amongst the medicals, chiefly English, who had more money to spend. The Aberdeen students in my time, notwithstanding their complete freedom, were an extremely responsible set of young men.

The unreformed curriculum for the degree of Master of Arts was designed to give a good all-round education in four winter sessions, lasting approximately six months each. The subjects were Greek, Humanity (Latin), and English in the first year, Mathematics, Senior Greek and Humanity in the second year, Junior Natural Philosophy (Physics), Senior Mathematics and Logic in the third year, Moral Philosophy, Senior Natural Philosophy, Natural History, and Christian Evidences (the latter I think being optional) in the last year. With the possible exception of Christian Evidences, which were intended chiefly for those who were going to be divinity students or schoolmasters, there were no options, but it was possible to take honours in Classics, Mathematics, Philosophy or Natural Science. As there was no entrance examination to the university, students arrived with different standards of ability and of preparation. In Latin, Greek, Mathematics and Physics, the professor lectured daily to the whole class, but in a second hour there was a division into what would be called in a bridge-room, 'rabbits' and 'tigers', the professor taking the tigers, an assistant the rabbits. In the second hour there was an approach to individual tuition; the first hour was a more or less formal lecture of which we all took notes, and as the lectures were the basis of the examinations and students

were rather jealous of exchanging them, we learned at least the art of attention and the knack of extracting facts from rhetoric or verbiage. In the other subjects everyone was supposed to be a beginner, and there were no second classes or division of the students.

The system has now been changed and not a few laudators of the past have deplored the alterations made by educational experts. The attack is pressed against the new pass degree in which there are options, so that, for example, a Master of Arts might have replaced Latin, Mathematics and Logic by French, Astronomy and Education. In defence of the change, it is urged that the absence of an entrance examination opened the gates of the university to many students so ill equipped that much of the teaching had to be elementary, and although the curriculum covered 'basic' subjects, a Master of Arts might well have gained only a smattering of each. In retort to the defence, it has been shown from a statistical analysis of class records that a large proportion of Masters of Arts in any one year of the old system had been in the prize or merit list of at least one, and frequently two or three, of the subjects. The truth is that many of the changes were inevitable. If there had been no other reason for the institution of an entrance examination, the free payment of fees by the Carnegie Trust would have opened the university gates too widely. And an entrance examination at least secured a minimum standard of ability, and sufficient Latin or its alternatives to form a basis for a more specialised curriculum. The addition of a summer term and the disposal of the total number of students amongst a greater number of subjects secured more personal tuition and a higher standard of information in each of the subjects a student selected. The modern world demands much higher standards of knowledge, and 'Arts' students with the standards they could reach in my day, or could attain if the old system had been retained,

would have little chance in modern competitive examinations such as those for the Civil Services, the India Civil Service, the Army, or scholarships at Oxford or Cambridge. Moreover, in the complexity of modern life, wider knowledge is at least convenient for everyone, an advantage even to the politician and a necessity for a journalist or administrator. But whether or no the new system encourages ability better is a wide question. We have inherited the organs of the body and of the mind from the animal world, adapted to wrestle with crude materials. Just as a civilised diet of cultivated fruits and vegetables and of carefully prepared food by its absence of 'roughage' tends to weaken the alimentary system and to understimulate the paths of excretion, so it may be that spoon-fed knowledge may overload the mind and dull the reason. And certainly the old system sent out men of brilliant service in the great world as administrators, professors, soldiers or bankers, and turned out a large proportion of competent schoolmasters and parsons. Of conspicuous successes amongst my own classmates, I name only two, Lord Meston and Sir Benjamin Robertson, and at college they were only of average standing in our best twenty. It is to be remembered moreover that Aberdeen graduates succeeded with little or no financial backing or influential pushing.

The absence of preliminary training had one disadvantage which affected a few. I myself, for example, having entered a year before my normal time, was a 'rabbit' wherever there were 'rabbits'. And still more unfortunately, perhaps, I was on the border line, as there is not a convenient zoological term for a rabbit that is nearly a tiger. And so in the junior classes, whilst the assistant professors pushed down the throats of mere beginners what I knew or thought I knew, I was neglected and took no interest in the work. But a boy with an alert mind is unlikely to stagnate. By a deposit of £1, we could join the King's College library,

browse in it at will, tasting or borrowing. It was a good library, and I was able to resume and extend greatly my old habit of desultory reading.

My four years at the university passed swiftly. From Latin and Greek, the chief subjects of the first and second year, I got little. Black, the Professor of Humanity, was seriously ill, and lectured with difficulty; but I remember well his translations and explanations of Horace—for instance his suggestion that the 'salt water' Horace mixed with his wine must have been a local mineral water, and his making of Terence into not a Latin text but a living playwright. In our second year he was succeeded by Ramsay (afterwards Sir William Ramsay, the famous archaeologist), a shy and bearded man, who enlivened Latinity with bits of classical geography based on his explorations in Asia Minor. Geddes, the Professor of Greek (afterwards Sir William Geddes, Principal of the University) kindled no spark in me. At the end of the first session, he invited us to do a vacation task, setting, so far as I remember, some kind of an essay on the *Iliad*. At the beginning of the next session, he devoted half an hour to the results, telling us that about a hundred essays had been received, 'several of great merit'. The latter were from our Greek 'tigers', whom he mentioned by name, extolled and emended. Then, glaring at me, he said: 'But I also received one essay, irrelevant and frivolous, showing no desire to understand the seriousness of the task or the genius of the great Greek writer.' In fact, the essay was quite good, for it was based closely on John Stuart Blackie's *Homer and the 'Iliad'*, and *Horae Hellenicae*, which I had borrowed. But Blackie, then professor at Edinburgh, although a much greater scholar than Geddes, was an eccentric and a romantic; probably personally, and certainly in his opinions, distasteful to the respectable Geddes.

The event of my first year was the English class. Wil-

liam Minto, an Aberdeen graduate who after being assistant to Alexander Bain for some years, had moved to London, been editor of *The Examiner*, and an author and journalist, had married a niece of Bain and, to the great indignation of a rival candidate, James Sully, the psychologist, had been appointed Professor of Logic, Psychology and English, in succession to Bain. It was his first year as he told me afterwards, and, having paid no attention to logic and psychology for years, he had to work hard for his lectures on these subjects. His English lectures were almost entirely *ex tempore*. It was our gain. He had already published a *Manual of English Prose Literature*, and *Characteristics of English Poets from Chaucer to Shirley*, and knew more than enough to excite us over the development of the English language and over the history and characters of English poetry and prose. His easy, informal mode of lecturing, as if he were discussing with us rather than teaching us, kept us absorbed and had the subsidiary advantage that it was easy to take full notes. He did me the honour of borrowing my notes for his lectures next year. But he was fresh from the great world of London, and introduced, almost casually, touches from his personal acquaintance with Swinburne, Meredith, Andrew Lang, Browning, Tennyson, George Eliot, Lewes, Henry Irving, Ellen Terry, name after name, that became real personalities for us.

It happened that I was first prizeman in Minto's first class, and whilst I was at Aberdeen, and afterwards until his early death in 1893, he was a kind friend and adviser. For some reason that I do not know, for in many respects they had similar views, he detested John Morley. Once when I had been reading Morley's *Voltaire* and *Rousseau* and had been extolling the splendour of the prose, Minto said rather to my surprise, 'Yes, but you must read Newman's *Apologia* for lovely and sincere prose,' and then broke into a denunciation of what he called Morley's inherent duplicity.

As an example he assured me that Morley, soon after leaving Oxford, shared rooms in London with a well-known critic. Both were short of money at the time, and the critic, returning one evening, missed from the shelves a valuable set of books. 'Yes,' said Morley, 'I pawned them this afternoon; we shall need money to-morrow, but here is the ticket.' The critic retorted: 'Of course I don't mind your pawning the books; but why didn't you do it in your own name?' 'I don't know,' said Morley, 'except that I was born tortuous.' Ray Lankester, another man whose opinions might have been supposed congruous with those of Morley, had a similar violent distaste for him, chiefly based on what he took to be Morley's active share in his troubles with the British Museum trustees. Soon after a specially violent meeting, Lankester was with William Heinemann and myself in the South Cevennes, and on the top of the Causse Noir gave us a vivid representation of how Morley would appear, hanged by the neck until he was dead, with his head on one side and his tongue lolling out. With glee also he related what was then new to me, that Morley had at first printed 'God' with a small 'g' but, in editions after his success in life, had restored the capital to the Deity.

Alexander Bain, the friend of Grote and John Stuart Mill, grammarian, philosopher and the leader in the freeing of psychology from metaphysics and linking it with physiology, incomparably the keenest intellect in the university for several generations, had resigned his professorship in his early sixties. He lived at Ferryhill, a residential suburb of Aberdeen, isolated by mutual mistrust from the ordinary professorial circles, but in active co-operation with international thought. He was still the idol of the students who, for two successive periods of three years, had elected him as Lord Rector. Minto took me to his house on several Sunday afternoons. The old gentleman, slight and grey, with a keen, pale face and vivid eyes, sat at the head of his

table, pouring out endless cups of tea for his guests. In such a fashion one might imagine Voltaire to have held a reception. On my first visit I told him that my father had been a prizeman in his moral philosophy and logic class in 1843-44. He asked my father's name: 'Alexander Mitchell.' 'That would be the red-headed bookseller from opposite Marischal College. And so he became a minister! He wasn't the first or the last I turned over to the divinity classes! The religious people might be more grateful to me; I didn't pervert their men. But the religious disposition is a queer, stubborn thing'; and then with a thin smile, 'your father would have done better to have gone on selling books, but tell him that I remember him fine.' Afterwards I was usually put at his side and to me much of the talk was addressed. But it was more a cross-examination than a conversation, and at the end one felt like a fowl that had been plucked alive, not because the feathers were of value, but merely because there was nothing else to pluck. But he came to the front door with you and asked you to come back again soon, with a little ghost of a friendly smile. Sometimes, however, there was an east-windy atmosphere and even the imperturbable Minto felt a little raw. On such an afternoon, walking away, he told me that he had once driven to the Savile Club with Bain and Morley: Bain got out first, and spoke to the cabman. The others, thinking that he was going to settle, were about to enter the club, but Bain called them back, and saying, 'That will be fivepence each,' collected the coppers before paying the cabman.

Not long before he died, Minto came to stay with me at Oxford. He was then deeply interested in the Pre-Raphaelites, as he had been given William Bell Scott's manuscript reminiscences to edit and publish. (They appeared, with a memoir, in 1892.) He had with him a copy of *The Germ*, the Pre-Raphaelite magazine in which some of Dante Gabriel Rossetti's poems had first been printed. I

made notes of the differences between the original versions and the final forms in the volume of *Poems*. The changes showed how Rossetti had chiselled his work and wrought beauty out of accidental conjunctions of words. For instance the lovely opening lines of 'The Blessed Damozel':

The blessed damozel leaned out
From the gold bar of Heaven;
Her eyes were deeper than the depth
Of waters stilled at even;

appeared in *The Germ* with the following two halting lines as the third and fourth:

Her blue grave eyes were deeper much
Than a deep water, even.

Bell Scott had been a peeper into alcoves. As many of the persons discussed were living, Minto's task required much excision and modification. I remember specially pages about Ruskin's relations with his wife, who afterwards married Millais, then one of the more prominent young Pre-Raphaelites. If Bell Scott were a true witness, the lady had moral as well as legal justification for the decree of nullity she obtained against Ruskin.

In my second year, as neither classics nor mathematics were exciting me, although, to my surprise, I was in the 'merit' lists, I took natural history instead of reserving it, as was the custom, for the fourth year. The course was our sole introduction to natural science, and covered biology, to the exclusion of botany, geology and palaeontology. Cossar Ewart, the professor, like Minto, was fresh from London and brought into his lectures a living air from the great world. Protoplasm as the basis of life, evolution, the cellular theory, the refutation of spontaneous generation, and the causation of putrefaction and contagion by living germs—these were engaging subjects, opinions in the making, on which one could exercise judgment instead of labouring

over the dusty past. But even natural history was not quite out of the dark ages, because there were neither the tradition of practical work nor the facilities for it. Cossar Ewart made a gallant effort to give us a few practical demonstrations, but a single professor without a students' laboratory could not do much with a class of over a hundred students. I was a prizeman in the terminal examination and was given *The Origin of Species*. Darwin amazed me. The '*Origin*' was unlike any book I had ever read; full of exciting facts; never laying down the law, but stating the case, so to speak, thinking aloud over the pros and cons, and leaving you to agree or not as to conclusions that seemed inevitable. No rhetoric and no persuasion. Darwin died about the time I received the prize, and I find written by me on the fly-leaf the epitaph from *Punch*, probably of all the tributes the most complete and elegant:

A studious porer over Nature's plan,
Calm tracker of her steps, keen, watchful, wise,
Recorder of the long descent of Man
And a most living witness of his rise;
Long o'er his life-work may the fight be fought
Yet leave him still a living light of thought.

Cossar Ewart soon afterwards migrated to Edinburgh. The Professorship of Natural History in that university was a great financial prize, as under the unreformed statutes the professor received not only his stipend but the fees of the large number of Arts and medical students. Ray Lankester coveted the post, and out of friendship and respect for him all the better known young zoologists withdrew their names. Cossar Ewart was not in the inner ring, and remained a candidate. In due course Lord Rosebery appointed Lankester, who, however, after a rapid visit to Edinburgh, decided that neither the people nor the facilities were to his taste, and abruptly declined the appointment. Rosebery, on whom much pressure had been put, was

annoyed and at once appointed Ewart, who made a successful professor. Alleyne Nicholson was the next professor at Aberdeen and under him I took the class a second time. Nicholson was an uninspiring methodical man, but took us through the classes and orders of the animal kingdom with precision, and also led us on several trips along the beach. Fired by collecting enthusiasm I went to the Dogger Bank on a trawler and spent a miserable thirty-six hours on the floor of the cabin, every four hours crawling up on deck to pickle specimens when the trawl spilt out the catch. Meantime the crew made good use of my generous hamper of provisions. But later on things went well, and never have I enjoyed a meal better than hot strong tea taken out of a rusty pannikin, and fresh fried plaice eaten off a newspaper, with the fingers. My catch made a handsome addition to the museum Nicholson was stocking.

In the third year we were back with Minto, in the logic class. It was a well-arranged course, beginning with deductive logic and the syllogism, touching lightly on nominalism, realism, the classification of the sciences and so forth, and then following John Stuart Mill and Bain rather closely in inductive logic, the theory of causality, the nature of the senses and their relation to the intellect. Minto was happy in choosing examples with a bite in them, some from Bentham, some of his own devising. Mill's proof by the 'joint method of agreement and difference' was stamped into our minds by the citation of Goldwin Smith's proposal to test by it the efficacy of prayer. So many wards of a general hospital were to be chosen, as nearly as possible identical in the number and nature of the patients. All were to have similar medical attention, but one half were to have in addition the ministrations of the appropriate parsons. Minto certainly pointed out some of the fallacies, chiefly the impossibility of getting a reasonable identity of patients and diseases—but we remembered the method.

I was first prizeman in logic and had a minor success in junior natural philosophy (physics), but all that year and the following summer I was reading hard. I studied and made abstracts and notes of Herbert Spencer's *First Principles* and *The Principles of Biology*, Stirling's *Secret of Hegel*, Wallace's translation of Hegel's *Logic* and *Prolegomena*, Ueberweg's *History of Philosophy*, and several of the Bridgewater Treatises, which I found among my grandfather's books, Whewell's *Plato for English Readers*, and many other randomly selected volumes. For lighter reading, I had Carlyle, Macaulay, Clarendon, the English Men of Letters series, Taine's *English Literature*, most of the greater English poets and masses of novels and essays. As I had no amusements and played no games, I had plenty of time, and was also helped in covering a wide ground by a practice to which I have kept almost without fail, all my life, rejecting a book if after an hour or so it failed to attract me. There are books and to spare. In my last summer at Aberdeen I took the botany class with medical students. Trail, the professor, was a bad lecturer and a victim to nervous headaches. But he succeeded in interesting us in two ways. He was a genuine naturalist, knowing the distribution of every plant within range of Aberdeen. He took us botanical excursions on Saturdays and encouraged us to make collections ourselves. And although he said nothing about the theory of evolution in his lectures (he was the son of the Principal and deeply embedded in the old guard), he set clearly before us the community of animal and plant life. The discovery had recently been made that in certain gymnosperms the fertilising pollen tube, instead of growing out vegetatively, broke down and gave rise to motile cells, similar in appearance and function to the spermatozoa of animals and seaweeds. Trail told us about this, and in his dry way excited us with the idea that new knowledge was in the making, knowledge that would burst the old bottles of traditional doctrine.

At the beginning of my last session, there was an announcement of an examination for studentships and exhibitions at Christ Church, Oxford. I rushed up to Oxford, sat for the examinations and was successful. On return to Aberdeen, I took little interest in the ordinary work, scamped the moral philosophy class, which in any case was conducted by a farcical professor, and accordingly got only a second class in philosophy honours. But I was also a candidate for the University gold medal in English literature, for which I had a brilliant competitor. He, luckily, was also working for coveted Latin prizes, and I was successful. And so in March 1884 I was duly capped a Master of Arts. In March 1914, thirty years later, the University conferred on me the honorary degree of Doctor of Laws.

Chapter III

Germany: Early Days
1884-1897

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James Bennet Peace was going up to Cambridge in October 1884, as he had won a scholarship at Emmanuel, and I was going to Oxford. In the final examinations at Aberdeen both of us had collected some prize money. We decided to go to Germany, as Peace's father had schoolmaster friends in Berlin who gave us the address of a pension. We crossed from Leith to Hamburg in a trading steamer, which took two or three passengers who messed with the captain. We left Leith late in the afternoon, and had a rich dinner of boiled salt beef, jam roll and stout with the first officer and the only other passenger, a man in the herring trade, with a familiar Aberdeen accent, who, to our surprise, turned out to be a German. The sea became rough, and we spent a miserable night and Sunday morning in our bunks. By Sunday afternoon we had recovered, or at least felt well enough not to resent it when the captain, a jovial seaman incessantly smoking a short clay pipe, opened our cabins, bustled us up on deck and, making us strip, bade a seaman dash buckets of icy salt water over us, to the open joy of the Aberdonian German, and it seemed to us of the whole crew. Then we dressed, had a meal of bread and cheese and stout, and were welcomed on the bridge by the captain. After dinner the three passengers were taken into the captain's room, where there was just space to sit, and regaled with hot toddy and stories, chiefly turning on seasickness. The most searching tale, which sent me rather

quickly to my berth, was the captain's account of his honeymoon. 'I got married', he said, 'on a Saturday afternoon—it would be by your cousin, Dr. Mitchell of the Leith Parish Church—and the wife would come with me to Hamburg. After dinner, in this verra room, the poor lassie got sick and I put the spittoon on my knees and held her head, and would you believe it, the spittoon had a hole in it and it was my new breeks.'

On Monday the sea was a plate of dull silver, out of which Heligoland, not yet ceded to Germany, stood like a slab of cake, its white vertical walls mirrored in the water. The low sun turned the silver into gold, as the ship slowly passed between the buoys which marked the long and narrowing channel up the Elbe, and we saw the endless quays and tall houses of Hamburg just before dark. Next morning we landed, carrying our bags. In these happy days there were no formalities of customs or passports, and using confidently our few words of German we left our bags at the station and explored the town. Hamburg then was not the city of gigantic modern architecture and wide spaces it rapidly became in the great days of German expansion. I remember chiefly narrow streets with quaint gabled houses, like Doré's illustrations, the endless tobacco shops, the waters of the Binnen and Aussen Alster with restaurants stretching out on piers and gay pleasure boats, and the town zoological garden (it was before the days of Hagenbeck), the first collection of wild animals I had seen. We went third class by the night train to Berlin, arrived early in the morning, had coffee and rolls at a milk shop and found our way to the pension. We were expected there, but with some difficulty we understood that there were no empty rooms in the house, that they had taken suitable accommodation for us where we would get our morning coffee, but would dine with them at four in the afternoons, and fend for ourselves otherwise. All seemed well, and a

youth took us round to the first floor of a fine house near the Pariser Platz, where we were given a huge room, with two beds in two alcoves, good writing desks and armchairs, and a front door and latchkey of our own. But the simplicity of the sanitary accommodation staggered us; there was no more than a movable sentry-box covered with painted canvas, placed well in the middle of the room, with a receptacle that was emptied in the morning and the evening. For a bath we had the old-fashioned flat saucer of metal. What amused us most was the fashion in which the maidservant, a Gretchen with pigtails, used to bounce into the room in the morning without warning, bringing our coffee and, as she passed to the table, crying a cheery good-morning to whichever of us was crouched in the bath.

Berlin was the first great city in which I had lived, and the days passed quickly. We read German with a tutor in the morning, learned more German from two pretty waitresses in a café, where they shared with us beer or *Maitrank* (white wine and woodruff), and kept warning us against the wiles of unprincipled women, requiring an exact account of how we spent our evenings. We dined in the pension, and supped lightly in a beer garden. Berlin was then a nondescript, straggling town, without a self-confident historical personality, and without the baroque splendour of an international capital, which by 1913 it had acquired. But I recall chiefly the gracious presence of trees, the trees of Unter den Linden, the trees of the beer gardens, the forest coming up to peer through the Brandenburger Gate. A few minutes before midnight silence fell on the town, the café Bauer and a single illuminated concert garden alone flaunting through the night. I knew nothing of general history except the fragments forced on a reluctant schoolboy, Carlyle's *Frederick the Great* and the first four volumes of Justin M'Carthy's *History of Our Own Times*, and I never thought of Germany as a power or of

international rivalry. If I had any notion of patriotism, it was as of an accident of locality, like a Scotch accent, to be worn bravely but rubbed off as quickly as might be.

Two incidents made us realise that Germany and Scotland were different countries. One day about noon, we were standing in the crowd which waited to see the old Kaiser show himself at the palace window; I impatiently said to my friend, 'I wish the old man would hurry up and not keep us waiting.' A voice in English said softly to us: 'Remember you are not in your own country or you'll get into trouble.' The next was a visit from the police. We had treated the police slips given us by the landlady in a casual way, and we must have got at cross-purposes with the inspector who paid us a visit, for we failed to convince him of what was exact truth, that we had no business of any kind in Berlin. We were neither students nor in commerce; we didn't know why we had come to Berlin, and we had no views as to how long we were going to stay or where we were going afterwards. Possibly a Scotch accent was unfamiliar to the inspector, for the police began to take notice of us in a very open way, until after a few days we sought out the Embassy and stated our case. An agreeable young Englishman put some shrewd questions to us, laughed, and bestowed on us a lithographed document, in which Lord Odo Russell, in the name of Her Britannic Majesty, threw over us the protection of the British Empire in polite but peremptory terms. At that moment patriotism was born in me; the differences between the nations had become a practical affair of daily life, and I entered with pride and gratitude into my inheritance as a citizen of no mean city.

As I write, three incidents connected with Germans in this country come to my mind. About 1894 or 1895 I was on a bicycle tour in Scotland and reached the inn at Tyndrum about dusk. It was the shooting season, the inn was full, and it was with difficulty that they found a garret for

us. As we were sitting at dinner, there came the sound of pistol shots, and a kind of gillie rushed into the room asking if there were anyone who could speak German. I obliged, and, going out, found a knapsacked young giant, with his back to the wall, keeping at bay with revolver in one hand and a kind of dagger in the other three or four harmless, but bewildered, kilted men. He responded to my greeting with wild relief, explained that he had been refused admission to the inn and that these wild men had tried to drag him off. He knew no English and his knowledge of the Highlands was based on translations of Scott's novels; hence the pistol and the dagger, to protect him from kilted robbers. I impounded the weapons and took him to the comfortable bedroom in the cottage to which they had been trying to induce him to go. He came back to dinner but was still doubtful as to whether his life had been saved by my chance presence. In Christmas week 1913, I was staying for a few days in a minor hotel at Dover, awaiting a friend who was going to Germany with me. The manager was a German, well educated and almost a gentleman, and to brush up my own German I talked freely with him. He told me that he was a fisherman and that as there was nothing to do after lunch he had got permission to fish from the north pier and did so every afternoon. He invited me to go with him, and we passed through the private gates and had a pleasant afternoon. But to my surprise he knew nothing about fishing, kept running hooks into his fingers and generally showing incompetence. We caught no fish, but he was very interesting and told me all that was going on in the harbour. I thought nothing about it at the time, or even afterwards, when he asked me to post a letter to his wife in Berlin, a little service which I had pleasure in doing.

The third incident hardly bears repeating, and the culprits still have nightmare repentances. Soon after the War began, a German-speaking couple decided to look for a

furnished house for a few weeks somewhere in Dorset or Devon, within range of Axminster. Before leaving London, they went to a registry, hired an unfortunate German woman who knew little English and could find no work, gave her the fare to Axminster and a pound and engaged her to meet them three days afterwards at Axminster station on the arrival of such and such a train from London. Off they went, but failed to find a house, forgot all about the servant, and came back to London. The German didn't know their name, and the registry knew nothing of the servant. What happened to the poor woman in those days of spy-hunting, waiting at Axminster for people whose name she did not know? A shocking story, but true.

Another surprise in Berlin for two untravelled Scotch lads came from the overwhelming presence of soldiers. The army I knew as a remote part of the organisation of our Empire, but soldiers were tucked away in barracks or walked out with the housemaids on Saturdays. I don't suppose that I had ever spoken to an officer, and certainly never had seen one in uniform except with his regiment. Even Kipling, still under twenty, was unknown. But Berlin was an armed camp. Regiments marched through the streets, interrupting the traffic; the pale old Kaiser was driven swiftly in the middle of a glittering cohort; officers unhooked their belts and hung their swords on the coat-stands of the restaurants, taking, rather than being given, precedence. It was new to me to find soldiering the urgent business of a State.

In early summer I paid a visit to a German country house near the Baltic coast, in response to an invitation that came through Scotch relatives, and I spent some time in various houses in Pomerania and West Prussia, for I was handed on as a guest from household to household. The intimate and adopting hospitality I received in these golden summer days is a warm memory. We had morning coffee at seven

and very often had 'second breakfast' as a picnic, driving on high-wheeled carriages miles and miles through open forests sonorous with cuckoos and carpeted with woodruff and lilies of the valley, or rowing on wide lakes in tangles of water lilies. Once we went from Stettin to the Island of Ruegen, where the beeches shaded the yellow sands and were mirrored, branch and leaf, in the still water. After the heavy two o'clock meal we played *Baum-kügel* (ninepins, in which the ball is suspended from the branch of a tree and the pins must be knocked down on the return swing), drank coffee or beer, lounged, watching the storks coming and going whilst the clamorous young shrieked from the nests on the garden outbuildings. At dusk we sat until supper time on the double flight of steps from the first floor to the garden, whilst the glow-worms crept out on the mossy paths, an occasional male flashing his pale light as he winged a slow way under the trees. The frogs shut out the outer world with a waving curtain of sound. All was old-world placidity except when the local protestant parson, subservient and noisy, was invited to supper, and made one think of Fielding's gibe that when you got your cook in the family way you married her to the parson. I don't know if that was a feudal custom in Prussia, but the parsons' wives did not come to supper with their husbands.

In the households of these Prussian gentry, the dominance of militarism leaped to the eye. Heads of houses were retired officers, the sons were active officers, the menservants were old soldiers, coachmen and gardeners and peasants in the fields stood at attention as we came near them. In all classes there was as much difference between the well-groomed and soldierly males and the homely women as between a cock pheasant and its mates. The difference extended to ideas and manners.

Bismarck was a familiar of the last house in which I was a guest, and there was a good deal of talk about a parlia-

mentary measure for which he was preparing. The idea was to give government subsidies to certain German shipping companies to assist them in running lines of steamers to Africa, and there was difference of opinion as to how far that would divert money from the army, if it meant building a great fleet, how the step would be received in England, and kindred problems soon to be familiar to all the world. But to me they were new and interesting. I asked if I might be told when Bismarck was going to introduce the bill in the Reichstag, and I was promised not only that information but a card of admission.

Not long after I returned to Berlin, a dated ticket was sent me, and I went to the Reichstag at the appointed hour. Almost at once, as it now seems to me, Bismarck came through the private entrance of a little raised box, facing the semicircle of members. From my seat I looked straight across at the stiff figure in some kind of uniform, and the grey, impassive face, very remote and formidable. He spoke in a husky monotone, difficult to follow, and almost without inflection or gesture. He was heard in complete silence, and I had the impression of a stern and rather bored professor giving instructions to a docile class. He stopped abruptly, and at once a wild clamour of jubilant and of angry shouts arose, almost as suddenly resolving itself into a single, thin and screaming voice. The voice came from a small, stout man with a red face flaring through a tangle of white hair and beard. He had a bundle of papers clenched in each outstretched, gesticulating hand, and he was leaning forward as if his passion of fury could reach across to Bismarck. The Chancellor had not sat down; he paid not the slightest attention to the tumult, but, slowly gathering some papers from the low desk in front, turned round stiffly and disappeared, leaving his opponent screaming with redoubled fury. And so, I believe, the World Policy was launched by Bismarck himself in 1884.

For the rest of my time in Berlin, I was interested in politics. Minto had given me introductions to people in Berlin which, now being less distrustful of speaking German, I was able to use. They were radicals of internationalist and pacifist tendency, and they not only distrusted Bismarck, but were convinced that the reign of blood and iron was over, and that the dawn of international peace was rising. They thought that Bismarck's policy was doomed, and they had a good deal to say of what would happen when the old Kaiser was succeeded by his peaceful son, but they were convinced as to the intention of the new bill. The subsidising of commercial steamers was to be the first step in the preparation of Germany for a fight with England for the mastery of the world. But I imagine that such liberal views were limited in their distribution. Already in Berlin in 1884 and in Leipzig—where I was very often in the immediately following years—amongst students, professors and the ordinary people one met in restaurants and pensions, the sense that Germany had a mission which would bring her in conflict with England was almost an obsession. In 1915, writing the introduction to a little book (*Evolution and the War*, John Murray, 1915), I dug out notes of a conversation on 22 June 1884 with a young Berlin business man. He had been much in London and took pleasure in instructing me, whom he knew to be Scotch, about England and Germany.

'North and South Germany have to be amalgamated before the Empire can fulfil her destiny, and it takes more than a dozen years to unite people so different in habits and mode of life. Round Berlin the land is poor; industry and manufactures take the place of natural wealth, and, as in your Scotland, the people are more fitted to battle with life. When they go to the rich Rhenish provinces or to Bavaria, their northern habits let them outstrip their easy-going competitors. When a Bavarian has gathered, as he may do quickly, 20,000 marks in his little business, he retires, as he

can be happy and comfortable on his income. Not so the northern; he at once begins to use his capital in larger ventures, and when he has got together a larger fortune than would content a Bavarian, he takes back his wealth to his Prussian home. The rich southern provinces and the fat Rhinelands take it amiss that the centre of power should be in the sandhole of Germany. Had Germany lost the first battles in the late war (the Franco-German war), the southern provinces would have crossed at once to France. But the German people are getting together now, and before long will be ready as a single nation.

'The French are burning for another war, naturally enough, it must be admitted. A visit to Berlin must be nauseous for a Frenchman—to see the trophies and plans in the War Museum, the victory column with the French cannon, the galleries filled with military pictures of German victories over France, the panoramas of the siege of Paris and of the battle of Sedan, the preparations for the new Reichstag, to be built with French money. Germany is not yet so wealthy as France, but, as in 1870, is now much more ready for sudden war. The feeling in Berlin during the last war was tense uncertainty changed to wild exultation. Ever since, our preparations have been going on slowly. The railways are State property and are prepared expressly for war. At immense cost railways have been built straight to Metz and Cologne. Another has been built round Berlin, so that troops arriving from any quarter can be sent in any direction without changing carriages. The day after war has been declared, we can hurl 800,000 men to the frontier; in three days another 400,000 can follow. Germany's hope is to strike a sudden blow, as we did before against Austria and France, and for this purpose our military organisation is kept up as if we were at war.

'Germany must be ready for any emergency. Her relations with England are cold enough. With Austria and

Italy she is friendly, but they are not strong allies, and the Hungarian half of Austria hates us bitterly. With France, Germany's relations are of the most volcanic character, and Denmark hates us. But Russia is our nearest enemy; she fears us, and not without reason, for we want the Baltic coast up to St. Petersburg. Russia is a serious enemy and is your enemy too. She wants to take India, and India she will have. Your country should not have treated her so tamely over Afghanistan; your Lord Beaconsfield showed himself a great man and understood that, but Mr. Gladstone is a fool as he does not wish to crush Russia.

'But perhaps India is not so valuable after all, and the stories of her boundless wealth are invented by the newspapers. Africa is the land of the future. You have colonies in the south and the north-east, and the French are strong in the west, so that there is not much left for us. But Germany must become a mother of nations; we must have lusty sons. When England, France and Germany come to blows over Africa, as nations of old fought for India and America, the well-trained German will prove a strong enemy. What use will your great ships be when we are fighting you in the wilds of Africa? The history of the greatest struggle the world has yet seen must be written before long, and it may fall to a German poet, with the goodwill of the victor to the vanquished, to sing the praises of a British Montcalm.'

I lived in Oxford from 1884 to 1893, first as an undergraduate and then as assistant professor, etc., and was occupied most of that time with zoology. I had no conscious memory that there was a widespread opinion in Germany not against England, but in favour of the German imperial mission to take what she thought her due place in the world against any obstacle, including England. Sentiment among my college friends at Oxford was strongly anti-French and pro-German, doubtless a reflection of the views current in conservative circles generally. But in 1886 or 1887 it fell

to my lot to select a subject and open a debate in the Wolsey Society, the Christ Church undergraduates' debating society. Inspired by an article written by Dilke in the *Nineteenth Century* or *Contemporary Review*, I took foreign politics as the subject, and argued that France was not, and could not be, a dangerous rival of England, as there were very few questions or places in which our commercial interests clashed, but that Germany was a rival, almost at that time, and certainly in the near future, in conflict with the interests of England in almost every part of the world. The argument was so novel that my opponent, when my time was up, proposed and carried a motion that I should be allowed to continue, the debate, if necessary, to be postponed to the next meeting.

Nearly ten years later, when I was writing regularly for the *Saturday Review*, English opinion was strongly pro-German and anti-French. Frank Harris, the editor, as I had been writing a good deal for him on German scientific books and opinions, asked me to write a semi-scientific article on Germany. As it had a curious sequel I reprint part of it here.

(9 *February* 1896)

'A BIOLOGICAL VIEW OF OUR FOREIGN POLICY

By a Biologist

'The record of the past history of life upon the earth has made us familiar with one phase in the drama of evolution. For countless generations a number of species may have been struggling, on tolerable terms, now one, now the other, securing some little advantage, when suddenly a turn in the kaleidoscope of the world gives one of them an advantage of real moment. The lucky species multiplies rapidly; it spreads over the land and the seas, its rivals perishing before it or being driven into the most inhospitable corners; in technical terms the species becomes dominant.

In the present epoch the human race is dominant, and its nearest allies, the higher apes, survive only in the recesses of tropical forests. The most dramatic period of the phase is now before us. The dominant species has conquered the whole earth; it has broken up into many local varieties, and the local varieties, transcending their own bounds, are pressing upon each other.

'The great nations of the earth are local varieties, species in the making. It is not necessary that there should be anatomical distinctions among them; although, indeed, the English, Germans, French, Russians and Americans, Chinese and Japanese have each their distinct groups of average characters. They are qualities of the brain and mind that separate the human race from the lower animals; and, in the qualities of the brain and mind, in modes of thought, habits and prejudices, there are already abundant characters, incipiently specific among the nations in question. Indeed there is evidence to show that the supreme specific distinction, mutual infertility, is beginning to appear between the more strongly marked types. But interbreeding is more than a physical phenomenon; and no one can dispute the growth of racial instincts that discountenance intermarriage. The nations are gathering themselves together, emphasising their national characters, and unconsciously making for specific distinctness.

'The foreign policies of the nations, so far as they are not the mere expressions of the individual ambitions of rulers, or the jogtrot opportunism of diplomatists, are anticipation of and provision for struggles for existence between the incipient species. Arsenals of war, navies and armies are the protective weapons of the species-corporate, as the antlers of the stag or the teeth and claws of the tiger, are the weapons of the individual. War itself is the most striking expression of the actual struggle. Here, however, it is necessary to distinguish. One kind of war, and that the most

familiar in the last two centuries when the opening of new continents made room for the expansion of growing nations, was a mere katabolic activity, the byplay of exuberant vitality. Such were the campaigns of Napoleon, or our own Crimean war; these were games the winning or losing of which affected only princes and generals. After a brief fever, the nations forgot for what they had fought and, almost before the dead had decayed, the natural equilibrium was restored. A second kind of war occurs when an expanding, changing nation presses on its weaker or stationary neighbour. With that and its swift result, the English have become familiar in every part of the world. But the last, and what must be a struggle to the death, comes only when two growing nations find no room for expansion save by compression of the one.

'The world is rapidly approaching the epoch of these last wars, of wars which cannot end in peace with honour, of wars whose spectres cannot be laid by the pale ghost of arbitration. The facts are patent. Feeble races are being wiped off the earth, and the few great incipient species arm themselves against each other. England, as the greatest of these —greatest in geographical distribution, greatest in expansive force, greatest in race pride—has avoided for centuries the only dangerous kind of war. Now, with the whole earth occupied and the movements of expansion continuing, she will have to fight to the death against successive rivals. With which first? With which second? And with which third?

'The problem is biological, and two considerations drawn from our knowledge of the conflicts between species must be weighed for an answer. First it is plain that conflict is most imminent and most deadly between species that are most similar. Creatures of the forest have no quarrel with those that haunt the seashores until they have tried issue with all the other forest creatures. Insect eaters will not struggle for fruits until they have beaten off other insect

eaters. Secondly, and equally obviously, the struggle is most imminent between species that are expanding most rapidly. Casual encounters may occur wherever creatures with offensive weapons come together; vital struggles only where the growth of one species forces it against another.

'China and Japan are not our enemies on either ground. For many generations they may be left to account for each other, in the immemorial Asiatic fashion, by mutual blood-letting. Their habits of life and their climatic aptitudes make them the last rivals of Western nations. In the distant future, when they have monopolised the low-lying tropics, the ultimate survivor of other nations may have to meet them. But so distant a turn in the kaleidoscope of fate is beyond prevision. Nor can Russia be regarded as an immediate rival of England. It is a huge, amorphous, protoplasmic mass, ready, indeed, to engulf any intruding foreign body, but not informed with the high organisation necessary for movements of external agression. In a creeping, amoeboid fashion, now protruding, now withdrawing, it is bound to grow down to the southern seaports its internal fertility demands. These necessary conditions attained, Russia will spend centuries in the slow process of internal integration, and wars of aggression, save as ephemeral caprices, are not to be feared from her.

'France, despite our historic antagonism to her, is no rival of England in the biological sense. She is not a nation that is growing and striving to expand beyond her boundaries. Her wars have been dreams of rulers, not movements of peoples. Her colonies have not struck roots of their own, but have remained in organic connection with the mother country, draining their vital sap from her. In commerce, in art, in letters, the French and English peoples have been complements of each other, not rivals. France and England are bound together by a thousand endearing diversities of character. They are commensal mates; allies, not enemies.

'In a discussion like the present, the smaller nations, Switzerland, Spain and Portugal, Holland, Belgium, Italy, Greece and the Balkan States are negligible quantities. They are domesticated species, living, by the grace of their neighbours, under artificial conditions. Austria, indeed, is not even a domesticated species: it is one of Mr. Carl Hagenbeck's "happy families"; an assortment of incongruous breeds, imperfectly trained to live together in a harmony that requires the utmost vigilance of the keepers. When the throes of species-war begin the park railings surrounding the artificial collection will be thrown down, and the escaped creatures will join their natural allies.

'Of European nations, Germany is most like to England. In racial characters, in religious and scientific thought, in sentiments and aptitudes the Germans, by their resemblances with the English, are marked out as our natural rivals. In all parts of the earth, in every pursuit, in commerce, in manufacturing, in exploiting other races, the English and the Germans jostle each other. Germany is a growing nation; expanding far beyond her territorial limits, she is bound to secure new foothold or to perish in the attempt. It is true, she has not yet succeeded in making colonies of her own. But that failure is the accidental result of her political system. Her own revolution is imminent, and Germany, as a democratic power, would colonise for herself with the same aptitude she has shown for infiltrating our colonies. Were every German to be wiped out to-morrow, there is no English trade, no English pursuit that would not immediately expand. Were every Englishman to be wiped out to-morrow, the Germans would gain in proportion. Here is the first great racial struggle of the future, here are two growing nations pressing against each other, man to man all over the world. One or the other has to go, one or the other will go.'

It would seem as if long before von Bernhardi had

written his famous book, *England as Germany's Vassal*, I was more German than the Germans, suggesting that war was a fundamental law of development. But I regarded it as probably inevitable, not as a moral principle. I was very far from Bernhardi's proclamation, 'Might is at once the supreme right, and the dispute as to what is right is to be decided by the arbitrament of war. War gives a biologically just decision, since its decisions rest on the very nature of things.' And still further from Maximilian Harden's paean on the Great War: 'And never was there a war more just, never one the result of which could bring such happiness as must this, even to the conquered.' None the less, as a short-term prophecy, based on current views and current facts, the article had merits. But on a longer prospect, like most prophecies based on analogies, it was fundamentally wrong. Two years later, Sir William Crookes, President of the British Association, at Bristol, called attention to the condition of the world's food supply, urging that with the low yield per acre then realised, within a comparatively short time it would cease to be equal to the demand caused by increasing population. The struggle for land and food would lead to the kind of war I predicted between the strongest and most rapidly expanding nations. But the world has followed a different course. In an entirely unexpected way the rate of increase of population among the more civilised nations has been checked by moral and physical restraint on reproduction. And the productivity of the earth has been increased by science in a fashion that could not have been foretold. The struggle of the future will be between those peoples who learn to control the new problem of distribution and those who cannot sufficiently quickly shake off the shackles of vested interests. The struggle is approaching. The great Russian experiment is awakening reactions of hope and of hate in all the nations. Will the arbiter be war?

But my article made little stir in 1896. Some of my

friends made comments. Sir Herbert Stephen congratulated me on its cold-blooded realism. Massingham, with his most friendly smile, said that I, and probably all other scientific men, ought to be shot. Norman (afterwards Sir Henry) said that such thoughtless statements did untold harm. Bernard Shaw went to Frank Harris about it, and when Harris told him that he had only printed it, not written it, retorted that it was equally harmful whether written by Harris or by 'the office boy'. Harris himself, until then strongly pro-German, but very easily impressed by what he believed to be science, began to change his views. Next year, in 1897, turning back to it, as he told me many years later, he based on it a leading article which was a savage attack on Germany. And Prince von Bülow, in *Imperial Germany*, quoted from that 'famous article published in the *Saturday Review* in the autumn of 1897', treating it as one of the results of the German Navy Bill of 1897, and giving it undeserved value as an expression of English opinion.

Chapter IV

Christ Church, Oxford
1884-1893

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When, in October 1883, I saw the announcement of junior studentships and exhibitions at Christ Church on the notice board at King's College, Aberdeen, I wrote to James M. Dodds (afterwards Sir James Dodds, Under Secretary for Scotland) asking him to send me more particulars. It was necessary to accompany the formal application to sit for the examination with certificates, and also in the case of an exhibition with a statement that the candidate required pecuniary help. The certificates were easy; at the end of each class examination we got a written document stating our place in the prize or merit list. I collected the best of these, and went to Minto about the financial one.

'But how can I write a letter saying that your father is a poor man, as I don't know him?'

I told him about the City of Glasgow Bank failure and added: 'Besides, if I ask my father beforehand, he'll forbid me to go. If I get a studentship or an exhibition he'll be quite satisfied; if I don't, he'll know nothing about it.'

Minto laughed, wrote the necessary letter, and offered to lend me the return fare to Oxford. But I had already arranged for that. I found that I could pawn my grandfather's gold watch and chain for more than enough, and had the optimism (which events justified) to hope that I could redeem it with prize money before I left Aberdeen at the end of my last year.

It is odd to recall the discomfort of long railway journeys

in the eighties or how little we felt it. The London train left Aberdeen early in the afternoon and passengers for Oxford changed at Bletchley early in the morning, and after a long wait had a two hours' stopping train to Oxford. On the express there were no restaurant cars and no lavatories. The third-class compartments were narrow and hard-seated and there were usually five on each side. But as I walked up from the station at Oxford carrying my little bag, the sun was shining, there was a pleasant tang in the air from Hall's brewery, women were carrying large bunches of golden chrysanthemums, and the streets were full of a friendly bustle. Oxford was a good town. An inn nearly opposite the Clarendon seemed cheap, and when I had taken a room, tidied myself and had eaten breakfast, I found the way to Christ Church. The first business was to be interviewed by the zoology tutor, Barclay-Thompson, Lee's Reader in Anatomy, whose incisive, almost denigrating way of speaking concealed what I was to find afterwards were a kind heart and resolute wish to make the best of his men. As he lectured to me, rather than questioned me, at that first interview, I saw him scrutinising my face, my plain tweeds, his eyes now and again coming to rest on my hands. Fortunately they were clean, with well-trimmed nails. My father always used to complain that his own hands had been spoiled by tying parcels in his bookseller's shop, spent much time on them, and surveyed mine with a relentless scrutiny.

The examination was in the Hall. I was a little alarmed by the numbers who were sitting for it, but comforted partly by the questions, most of which I was prepared to tackle, and still more when looking up now and again I saw that many of the competitors were making heavy weather of it. But my greatest surprise was when waiters placed a luxurious tea on a long table at the lower end of the Hall. They had hardly set the dishes down when nearly the whole lot threw down their pens and rushed to the tea table in a wild

and greedy scrimmage. Of course it was only schoolboy larking, but, as last of all I found a cup and a bun, I felt fairly confident, by some subconscious process of reasoning. When I left Christ Church I crossed the street and stared at the noble frontage to St. Aldate's, and resolved that, scholarship or not, I must come to Oxford. In due course, however, I got an intimation that although I was a day too old for a junior studentship, the election having taken place some days after the examination, I had been given an exhibition.

When I came to Oxford next October I knew only two persons. But Dodds of Merton had just taken his degree and had gone down. My second cousin, Arthur Dunn of Brasenose, came to see me, was extremely friendly, and asked me to luncheon. But he had a big allowance from his father, had coxed the B.N.C. boat and I think the 'varsity boat, and had a very full circle of friends, so that except for occasional civilities I saw nothing of him. Although Christ Church has done much for me, more than I could ever repay except by loyalty, there is a disadvantage for a stranger to come to a large college where it is impossible for everyone to know everyone else. In any case, at any college, most of the freshmen already know something of the ropes, and, if not, they are almost certain to find men from the same school who will introduce them. I knew nothing of college life and no one, freshman or senior, in the College. And in these days, although this, I am told, has now been altered because of the successful careers of a number of exhibitioners, the exhibitioners at the House were lowest in the hierarchy. The junior students wore scholars' gowns, sat in Hall at special tables nearest the high table, and in turn read grace. The ordinary undergraduates could form their own messes in any part of the Hall. The exhibitioners wore no distinctive gowns, but had to sit at the lowest table nearest the entrance and were served last and worst. Moreover,

they were of little account in College life, as in most cases they had been beaten in the examination for studentships and were already docilely accepting inferiority. Of course, there were exceptions. Amongst my messmates was Arthur Chilton, afterwards Headmaster of the City of London School and Prebendary of St. Paul's Cathedral. He was always friendly to me, and did me many acts of kindness, but he had his own circle of school friends and acquaintances. Nor did the exhibitioners receive more than the necessary attention from the dons.

In my third year I found on my table an invitation to breakfast from Dean Liddell; I was so sure that it was a practical joke that I did not answer it until I got my scout to make discreet enquiries from the deanery butler. At breakfast were all the exhibitioners, equally surprised, in a bunch. The only other time the Dean spoke to me was after the final honours lists in natural science, when I had to go to the deanery to receive the books which the House gave to those who had got 'firsts'. We had already sent in our lists and the books were there, stamped with the College crest and duly inscribed. All that the Dean did was to survey my choice rather dubiously and to ask me if I thought they were really useful. I think Minto must have written to York Powell, who invited me to dinner. But the other guests were three senior men whom I did not know, and I had a dull evening. Barclay-Thompson, my science tutor, invited me to his house to luncheon at least one Sunday every term, and after luncheon we drove some miles into the country, 'to exercise his horses', and then walked back, most of the time he telling me about one or two of his former pupils, how resolutely they had worked, how brilliantly they were now doing in the world, and how little chance I showed of following their examples. His first wife was a charming woman who suffered a little under her husband's caustic tongue, and did her best to pour oil on our

raw feelings. She found that I was addicted to poetry and was reading Browning, and took me to a meeting of the Browning Society in Mrs. Talbot's drawing-room in the Warden's House at Keble. Amongst the company there was a distinguished Victorian novelist, very plump, tightly laced in a low-cut frock. It was a pity that the subject of the evening was not 'A Last Confession'. The lady was sitting in a low chair, and, 'as she stooped in laughing, we could see the breasts half-globed', not 'like lilies deep-set in a stream', but like very full-globed fruits ready to dehisce. And in fact they did dehisce.

'But what on earth happened? Weren't you all terribly embarrassed?' asked my undergraduate friends, when I told them about it that night.

'Why, nothing happened, except that the lady put them back.'

I only once saw Robert Browning. It was at an evening party at Edmund Gosse's house. He was a stout man in striped trousers and a tightly buttoned black frock-coat, with a rather large, bland face. He looked like a prosperous and genial commercial traveller. The only poet I have seen who was a poet and looked like a poet was Swinburne.

Notwithstanding the initial disadvantages of being a stranger in a large college, it was not long before I was in a circle consisting of a dozen or so of House men and their friends from other colleges. In my first year I had plenty of time to learn the ways and to make friends, because I had to go through 'Pass Mods'. Except that there were some new Latin and Greek books to read and the Rudiments of Faith and Religion to be encountered, it was easy work. 'Billy' Warner was my Pass tutor and, as he had not to teach me elementary grammar, he was able to make me take a real interest in Plato, Herodotus and Aeschylus, and, as I knew the Gospels in English, they were easy in Greek.

Dress was one of the early difficulties, as the outfit of a

Scotch student, with a few eccentricities from Germany, did not fit the Oxford standard, then more meticulous than it is to-day. But I learned. On my first afternoon in Christ Church as an undergraduate, the emissary of a tailor bustled into my rooms, no doubt put wise by my scout, who had surveyed the deficiencies of my outfit:

'I have brought your gown and mortar-board, sir, and your College tie and blazer.'

I thought that he was a College official, and knowing nothing about caps and gowns, blazers or college ties, meekly accepted them, and asked when and where I was to wear these garments. He sized me up quickly, and before he left, not only had given me very full information as to what was necessary, but had measured me for a lounge suit, flannels and a sporting overcoat. But that tailor was content with a small catch. Later on in term I was going on somewhere after dinner and had put on evening dress under my gown. The only prosperous undergraduate who had become intimate with me stopped at the exhibitioners' table as he went out, looked at the cut of the collar and said:

'Poole, I see,' but added hurriedly, before I had grasped the compliment, 'But, oh no, it isn't!'

Most certainly it was not a 'Poole', although the country tailor in Scotland might possibly have tried to follow a Poole's fashion-plate. Next day I asked my friend where to get clothes.

'Tom Brown of Eton sends a man to the House every week. I'll tell him to go round to you.'

Tom Brown's engaging and competent agent came, not patronising like the first man, but full of tactful advice. I had the pluck to ask him about payment, telling him that I must have credit. He was shocked.

'Tom Brown never presses for payment. Send him some money now and again as you please.' Then with a smile, 'If

you do get a bill and it isn't convenient to pay, just order a new suit. We like an account being kept alive.'

An admirable arrangement, and certainly carried out during my time in Oxford and afterwards for many years in London. No doubt I spent heavily on dress even at pre-War prices, but in my experience it was a mistake before the War, and still remains a mistake, for any except rich people to be careless about their appearance.

Oxford tradesmen generally, wine merchants, tobacconists, grocers and so forth, were equally accommodating in theory, but not in practice. After they had accustomed you to easy expenditure, bills began to come in which could not be met pleasantly by fresh orders. But one way or another, I carried on until my last term when a friend and I were alarmed by finding out an old custom. When at the 'capping' for the B.A. degree the names were read out, after each name the proctors marched up and down a clear space in front of the vice-chancellor, to give any disappointed tradesman the chance of plucking at their gowns and stopping the conferment of the degree until their debts had been satisfied. No doubt but that it was a traditional usage, obsolete in practice. But two undergraduates who had passed with honours and were looking to the immediate future were perturbed. We made enquiries and found that an insurance agent, if we would insure our lives and get two securities, would advance through the company a very large proportion of the sum insured at a fair rate of interest and on easy terms of repayment. We both had had some experience of moneylenders. The last was amusing. We went together for a joint loan to, let us say, a Mr. Gordon Macgregor (it was before the days when correct names had to be registered). We were discussing the terms of discounting our joint bill and I had been stating that the maximum terms of forty per cent without security amounted to a great deal more than forty per cent on the actual sixty

pounds we should receive, when a knock came at the door. A clerk entered.

'Please, sir, here is Mr. Roberts again; he says that his wife is ill, and what with doctors' bills and so forth, he can't possibly pay. Could he have more time?'

'Poor fellow,' said Mr. Gordon Macgregor in a fat voice; 'tell him at once not to worry, and take all the time he wants.'

The clerk went out; my friend and I exchanged secret winks and I pressed for better terms.

'Not another postage stamp,' said Mr. Gordon Macgregor.

We left without the loan, but with an experience worth the disappointment. The insurance company was a different kind of arrangement. We got the guarantors the more easily as my name was accepted as one of the two for him, and his name as one of mine. I wonder if my friend in his now exalted position remembers the two transactions.

During my first year, my circle of friends rapidly enlarged, and as time went on, especially after I began to work in the University laboratory, it became wider and wider, first through scientific friends and then through more general interests. In due course, before I had taken my degree, I was president of the Wolsey Society at the House, of the Russell Club, and of the Junior Scientific Society. I used to go to the Union, chiefly for the library, and occasionally to the debates. But as those who were reading science had to spend most of their afternoons in the laboratory, I had to work a good deal in the evenings and made no effort to get into the circle which 'ran' the Union. So far as I remember, I spoke only once in a debate and that towards the end of my last year. Burton's translation of *The Arabian Nights* had been bought for the library and there was an outcry against it. I was told by some friends that without any doubt a motion to turn it out of

the library would be carried, and was urged to attend and make a protest. I agreed; it is a comfortable position to lead a forlorn hope as one may be as offensive as possible without the fear of losing votes. The president, A. J. Carlyle, now Canon Carlyle, was in the chair, a man of active and balanced mind. The debating hall was packed. I followed the opener, but was almost immediately interrupted on a point of order, as I was making an ironical comparison between Burton's *Arabian Nights* and the Old Testament as invaluable sources of primitive folk lore, with a similarly direct freedom of language on sexual matters. Carlyle ruled in my favour, to the distaste of most of the audience. I was followed by Lord Hugh Cecil, slender, graceful, with a rather harsh staccato voice, but with a passionate, convincing sincerity. His counter-attack on me could not have been better done, and the motion for ejecting the book was duly carried.

During my first Christmas vacation I spent a week in London in the Lancaster Gate parental home of William Heinemann, whose younger brother, E. L. Heinemann, was an undergraduate at the House. It was the beginning of a friendship which has been one of the most pleasant, most amusing and most helpful things in my life. Eddie was passionately an Englishman; William was internationalist by inclination and training, a good linguist, fond of foreign literature and music, and he and I spent most of the evenings arguing and agreeing. The three of us went to a music hall of the old type, where there was a chairman, and one evening, escorted by the butler, we went to a boxing match in a Whitechapel slum. Boxing had not then been taken up by the idle rich.

William was beginning to learn the business of a publisher, and asked me to come to see him at the office, Messrs. Trübner. He had begun at the bottom, and I found him behind the counter in the front office, receiving visitors,

taking the orders from booksellers' messengers, who came with their canvas bags, and so forth. He told me that his father was ready to provide initial capital when he was ready to set up on his own account, but that he intended to wait until he had learned everything first, from the routine of selling to printers' estimates and the cost of paper and binding. I do not doubt but that his subsequent success was due as much to his technical knowledge of bookmaking as to his flair for literature.

For my first Easter vacation, a party of us decided to go to Streatley-on-Thames to do some reading, boating and walking on the downs. There were three inns, but none of us knew them, and we drew lots as to which of us should go that afternoon to inspect and select. The lot fell on me, but after a heavy luncheon I fell asleep and missed the train. To avoid chaff I gambled. One of the inns was called the 'Swan', and I guessed that it at least was actually on the river. And so I drew a rough little sketch of a low-browed inn with a lawn running down to a landing place and a backwater with a line of willows. After dinner I produced the sketch and reported. It was agreed that the 'Swan' was the place for us, and so we wrote for rooms and in due course went to occupy them. Well, the sketch, at least so far as any of us remembered it, was right; so right that I told them what had happened, and they all without any hesitation declined to believe, and insisted I was only a stout and unconvincing liar.

From the beginning of my second year at Oxford and until I had finished my undergraduate career, laboratory work became engrossing, and except at Easter, when usually I went to Germany, I spent even most of the long vacations at Oxford. Punting in the summer term and centre-boarding on the upper river when there was wind were my chief diversions, and few things were more exciting than to try to boil a kettle and make tea whilst tacking up the river.

Poulton (afterwards Hope Professor of Entomology, and now Sir Edward Poulton) lectured to us on geographical distribution and was already an enthusiastic student of mimicry, a subject to which he has made extremely important contributions. On country walks he almost made us laugh by his skill in detecting moths which seemed to match the trunk or leaf on which they were resting, apparently completely matching their background. If he could see them, how about a hungry insect eater? Poulton was a stimulating teacher and we all owed much to him. It has been one of the pleasures of my life to retain his friendship, and at the recent centenary celebration of the Entomological Society it was a joy to have the opportunity, as representing English zoologists, to say something of what we owe to him.

When Alfred Russel Wallace came to Oxford to receive the honorary degree of D.C.L., Poulton introduced me to him: a tall, gaunt man, incredibly natural and simple. It was an amazing coincidence that Wallace and Darwin, two men empty of jealousy and anxious for the truth, should have reached the theory of natural selection independently and simultaneously.

But the zoological laboratory in the Museum was my chief home at Oxford for my last three years as an undergraduate, and for three years afterwards. The greatest character at the laboratory was William, the laboratory man. He attended to everything from putting the diagrams up in the lecture room, to obtaining the specimens for dissection. He waited in a college dining-room at night. He kept an allotment and reared poultry, largely, we believed, on the remains of rabbits from the dissecting-room. Once a year at the Oxford Fair he helped a sister in keeping a stall, where saveloys and ginger beer were sold. He was a short, bearded man with a pale face and thin lips, who killed and prepared the various creatures required for dissection with

the same cold and competent indifference with which he cleaned a dish or regulated a thermostat. I saw him perturbed only once. A set of live scorpions had arrived from Morocco for dissection. An accident took place in opening the case, and the scorpions fell out and scuttled off in every direction; there were supposed to be two dozen; thirteen were retrieved, but we could find no more, and for weeks afterwards, everyone, and above all William, walked delicately, and only picked up a duster with forceps. Three or four were found dead, but of the rest there was no further news.

William had a grievance. His first chief at the laboratory was Professor Rolleston, who held the then combined posts of Human Anatomy, Physiology and Comparative Anatomy. He was also a pioneer in physical anthropology, and William had assisted him in opening round and long barrows and in preparing human skulls for the very large collection Rolleston made. The post of hangman fell vacant. William decided to apply for it. He went to the professor, explained his wish and begged leave to apply and be given a testimonial.

'You scoundrel,' said Rolleston, 'I have half a mind to dismiss you on the spot!'

William never could understand it; the occasional duties of the hangman's job, he was quite sure, would not have interfered with his laboratory work. He used to keep his grievance warm by following, in the *Police News*, all the details of trials and executions, in the fashion that a disappointed suitor follows with melancholy interest the happiness of his successful rival.

H. N. Moseley, father of H. G. J. Moseley, the brilliant young physicist who was killed at Gallipoli, was professor during two of my undergraduate years, but was already beginning to suffer from the illness of which he died prematurely. He was a careful and detailed lecturer and, on his

occasional visits to the laboratory, used to come round to each student in turn, taking a personal interest in his work. For each of the invertebrate types which we dissected, he had supplied a long manuscript description, based on his own work, of the order in which the dissection was to be undertaken, and the points of structure that were to be noted. Before being appointed professor at Oxford, Moseley had been, with John Murray (afterwards Sir John Murray), biologist on the *Challenger* expedition, which from 1872 to 1876 made the greatest British exploration of the sea. Moseley told me that after his appointment he went to see Charles Darwin for advice. Darwin had told him to pay special attention to the manners and customs of the natives on the remoter islands of the Pacific and to collect as many as possible of their implements and ornaments, as missionaries and commerce were rapidly destroying invaluable data as to the civilisation of early tribes. Darwin was then fresh from writing *The Expression of the Emotions* (published 1872), and warned him not to try to judge from the faces of primitive savages whether trouble were about to come.

'Keep your eye on the scrotum,' he had said, 'and when the cremaster muscle reflex hitches up the testicles, you may be sure that they are in a dangerous mood.' Moseley came back from the voyage of the *Challenger* with a vast bulk of ethnological and zoological material, and wrote, in addition to detailed scientific memoirs, a fascinating semi-popular account of his voyage, comparable in many respects with Darwin's *Voyage of the Beagle*, and Huxley's *Rattlesnake*. Murray brought back at least an equal bulk of additions to knowledge, but also a share in a deposit of guano out of which he made a substantial fortune. Zoologists seldom become rich men as a result of their work, but it is said that the younger Agassiz, son of the famous Agassiz and himself a distinguished man of science, made the dis-

covery of a silver mine whilst he was engaged in scientific exploration in South America, the foundation of a great fortune.

Baldwin Spencer (afterwards Sir William Baldwin Spencer of Melbourne, distinguished as a zoologist, but also for important researches on Australian aborigines) was Moseley's chief assistant. At that time it was rumoured that a central spot in the top of the head of the New Zealand *Sphenodon*, or tuatara 'lizard', might cover the remnant of a third eye, and that someone in Germany was about to work at the subject. The tuatara is a lizard-like creature which lives in burrows, and reaches a length of two feet. It is not a true lizard, but is the only survivor of a group of reptiles equivalent in systematic distinction to the crocodiles, tortoises and turtles, snakes and lizards, and is more primitive than any of them. It was hoped that investigation of the skull and brain of tuatara might also throw light on an unexplained opening in the skulls of many fossil amphibians and reptiles.

Moseley had sent to New Zealand for specimens. Now, fortunately, they are strictly protected by the New Zealand Government. The shining spot was visible on the top of the head, but although we tried by day and by night, with natural and artificial light of different strengths, there was no trace of any reaction. Spencer's researches, however, showed that under the spot was a true but degenerate eye, with lens and retina, and that it was of the vertebrate type, developed like the lateral eyes, as an outgrowth from the brain coming in contact with an ingrowth from the superficial tissues. As a junior I had no part in the research, but it was exciting and stimulating to be at the birth of one of the greater discoveries in anatomical science.

My four undergraduate years passed quickly. For at least the last two and a half of them I worked very hard in the laboratory, in the Museum collection, and in the Radcliffe

library, where there was an admirable collection of foreign scientific books and periodicals. At the honours examinations in 1888 I was successful. But before I pass on, two incidents come into my mind. Frank Bather of New College (afterwards Keeper of Geology at the British Museum, South Kensington), although a year senior to me, was an intimate friend. We used to go geological excursions together, mapping and collecting fossils. Bather was never a precisian in dress, and when equipped with a hammer and chisel stuck in his belt, and with a very old knapsack of specimens over his shoulders, he would have been untidy even for a modern undergraduate. Once on our return from working at a newly opened 'section' in a railway cutting, I asked him to come to my rooms at the House for tea. We were both so muddy and dishevelled that the porter stopped us at Tom Gate, and it was only when he recognised me that we were allowed to pass. Next morning the Censor sent for me, accepted the explanation readily, but remarked that the porter had orders not to admit tramps into College.

J. B. Haldane (the late Sir John Haldane), nephew of the Lord Haldane and of Professor Burdon Sanderson, was then one of the assistants in the physiological laboratory. He was investigating reactions to pleasant and unpleasant stimuli, and had an apparatus which could be strapped to the arm and connected with a glass tube in which a coloured liquid rose in response to a pleasant odour, fell when an unpleasant smell had been exhibited. The method was to blindfold the patient and allow him to smell in any order, scents, flowers, sherry and nauseating substances. The experiments were going on one afternoon and we had all given the expected responses, when it came to the turn of an able young man who was working at physiological chemistry. He also responded as was expected to various scents, but when a preparation of one of the most unpleasant

emanations from the refuse of human digestion was put under his nose, the coloured liquid rushed up the tube. We all shouted with glee, thinking that a disordered taste had been discovered in a man who was not very popular. But we were wrong. The man had been working on indol, then a newly discovered substance prepared from human excrement, and it was not the nasty smell but the recognition of a rare substance that had caused the reaction. I have more than once used that occurrence with reference to critics of art in whom often the pride of knowledge inhibits or distorts aesthetic judgment.

When Moseley became too ill to do his work he was replaced temporarily by Sidney Hickson, who afterwards became professor at Manchester and has been a lifelong friend, and then by Hatchett Jackson, a tutor of Keble. Jackson was an odd and gentle person, of great knowledge in zoology, rather a dilettante, but of endless kindness to his students. Baldwin Spencer had gone to a professorship at Melbourne, and Gilbert Bourne (afterwards professor at Oxford) had become the first director of the new Marine Biological Laboratory at Plymouth. I went to Germany for the long vacation, and on my return Jackson got me appointed University Demonstrator in Zoology and his assistant, posts that I held until 1891. There was only one matter on which he insisted. I must lecture without notes. Fortunately the arrangement was that the professor should lecture to the general class and that the demonstrator should take the smaller and more advanced class, where the question of discipline did not arise and where it was chiefly a matter of reading new memoirs on work not yet in the textbooks and giving an account of it. Moreover, as the men were taking down full notes and copying the diagrams the lecturer drew on the blackboard, there was no need for flurry or hurry. But for the first term it was an anxious business, the more so as I am not naturally fluent. I found,

however, that after preparing the subject beforehand and arranging the order in which I was going to develop it, the act of talking and seeing how the listeners were following shaped one's own ideas.

The salary of a demonstrator was not large, and although honours students in zoology came to me for private reading, I found it necessary to try to earn a little more money. Sadler, then Steward of Christ Church, was a pioneer of the new University Extension movement, and I asked him if I could not be taken on the list of lecturers. He was most encouraging, but said that it was the rule to have a trial lecture. An evening was fixed: I chose marine life as the subject, and prepared carefully, on the lines of an honours lecture, what was really an abstract of some recent work. At eight o'clock Sadler and another assessor took me into the lecture room which was empty, installed me at the desk, instructed me to take exactly an hour, and told me that the vital matter was to hold attention. Then the door opened, and in marched, headed by a mistress, a file of young girls from a ladies' school. My proposed treatment of the subject was hopeless. After a sudden gasp of horror, I pulled myself together and began a description of the conditions in the great ocean depths, the water motionless, always at a temperature just above freezing point, no light except the fitful gleams of phosphorescence, all colours of equal value, or rather of no value, in the dark, no green plants, all living things carnivorous, the only external source of food being a slow rain of dead life from the more fortunate upper waters, and so on, expanding every point. I got interested myself, and held the girls. It was a surprise to me when the hour was over. The girls marched out. Sadler came to me, bright, rosy and boyish-looking, said not a word about how the lecture had succeeded, but at once, cocking back his head, began to talk about the very strange conditions I had been describing and how difficult it must have been for

living things to accommodate themselves to them. I had interested him, and knew all was well. Sadler (now Sir Michael Sadler) has changed less than anyone I have known, in the course of his long, varied and excessively useful life of public service. In October 1931, I was his guest at the Master's Lodgings, University College, as I had been asked to give the first 'Carpenter Memorial Lecture' on a new foundation, for the benefit of Oxford citizens. After the lecture, he came up to me, unchanged except for his white hair, bright, rosy and boyish-looking, and, exactly as he had done nearly fifty years before, said not a word about the success or otherwise of the lecture but, cocking his head on one side, began in a slow meditative way to talk about a point I had raised. In one matter we had moved in the same direction; he was an enthusiast, but much more learned than I am, in modern French art, and it was strange, but marvellously congruous, to see in the library of the Head of an Oxford college pictures by Cézanne, van Gogh and Gauguin, of some of which I had the Munich reproductions.

Sadler got me an engagement to give a course of twelve University Extension lectures at Torquay, each lecture to be given in the afternoon to a more or less fashionable audience, and repeated at night to an audience of citizens. It was most useful practice; the afternoon audience, consisting chiefly of more or less invalid visitors who came to the lectures as they would have gone to a concert, because there was nothing else to do, didn't matter much, but the evening audience was responsive and keen. And there I invented a device so useful that it may be passed on to other lecturers. There are few things so disconcerting to a lecturer or more tiresome for his audience than when time runs short in the last few minutes, and the speaker has to hurry and muddle. I used to divide the subject into three portions approximately equal, but the last third definitely shorter. In the

case of an hour's lecture, the customary length, and in my opinion sufficiently long for any audience on any subject, I watched the clock, and just before the first twenty minutes were over, I made a cut, if a cut were necessary, so as to begin the second third at exactly the right moment, and so again at the end of the second third. Audiences don't notice cuts during the course of a lecture, and to their comfort and your own, you can finish the lecture with even a minute in hand and with your rhetorical peroration, if such a flourish be suitable. But I confess that I have always been nervous in the few minutes before a lecture begins. Possibly the Royal Institution in London is the most trying. The lecturer is led to a small private room in which he cowers until thirty seconds before the hour, when someone comes for him, and he enters the lecture hall from behind the desk last but one in a file of the committee. Last but one, because it is a legend that a lecturer once seeing the rows of faces stretching up before him, turned and fled. The late Sir James Dewar, kindest of men, came into the lecturer's room a few minutes before my first lecture, and found me dithering.

'Yes,' he said, 'it is a bad moment, but Huxley who often lectured here and whom, you would have thought, nothing could discompose, told me before the last lecture he gave us that he was in a state of panic, and always was until he had got over his first sentence.'

For a little over two years I was engaged in lecturing, demonstrating, and acting as tutor in zoology to two of the colleges and the lady students. The two lady honours students came together to my room at the Museum for private coaching, but they and several others who attended the lectures were accompanied by the widow of a professor as chaperon—it is now nearly fifty years ago! I recall lecturing on the marsupial animals, amongst which the structure of the genital organs requires detailed description. The lady

students took their notes and copied the diagrams with complete scientific impartiality, but the chaperon bent more and more deeply behind her knitting. Edward Minchin, afterwards professor at University College, London, was my pupil for his last year as an undergraduate, and afterwards my colleague. The tutorship was an almost absurd relation, as I could help him only with abstracts of memoirs he had not had time to read. In laboratory research he was far ahead of me, but our friendship lasted until his untimely death. Another pupil was R. T. Günther, who became fellow and tutor of Magdalen, and in addition to zoological and geographical work has made himself a chief authority on early scientific instruments. Günther's father was Dr. Albert Günther, Keeper of Zoology at the British Museum and one of the more active members of the Council of the Zoological Society. He came to have an important influence on my career.

The beginning of another valuable friendship occurred about that time. Frank Beddard, Prosector to the Zoological Society, had been appointed editor of the *Zoological Record*, and came to Oxford to see if he could get someone to take over one or two of the sections of that annual publication. Hatchett Jackson, his old tutor, referred him to me. We made friends and I undertook what he wished me to do. The pay was exiguous, but a great part of the work could be done in the Oxford libraries, and the week in London for the periodicals not at Oxford brought me in contact with the Natural History Museum. Moreover, the examination of all the new publications on one or two branches of the animal kingdom was a valuable discipline.

I seemed settled at Oxford. There was a reasonable possibility of a fellowship. My own college had given me the freedom of the senior common room and I could dine at the high table. I had enough work; I was writing reviews and articles for *Nature*. A professorship of zoology fell

vacant at Bangor; I was put on the short list of candidates and went to be interviewed. Reichel, the principal, told me long afterwards that he had supported me strongly, but another man was successful. In fact it was a lucky escape, for Bangor apparently was a difficult place to get away from and the successful candidate stayed in it for the rest of a long life. Even at the time I was not very disappointed; I was happy at Oxford and trusted that something would turn up. Something did turn up. Unexpectedly Ray Lankester was appointed professor and, when he came to spy out the land, he told Minchin and me that after his first term he was going to bring Benham, his London assistant, to Oxford, and that we would not be required. It was a blow, but what he did was natural and quite within his rights. Fortunately, a new opening came.

Chapter V

Technical Instruction 1890-1893

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Under the Local Government Act of 1886, county councils were established, and by the Technical Instruction Act of 1889 were given power to levy a rate not exceeding one penny in the pound for 'instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries and employments'. The Acts were forced through against much opposition, which came partly from school board authorities who were resentful that the new extension of education should be taken out of their hands. It was the backwash of a long controversy between voluntary schools and board schools. A Royal Commission had reported in 1884 on the need of providing technical instruction, and in 1888 the Government had introduced a bill intended to give effect through the school boards to some of the recommendations of the Commission. But the proposal to place voluntary schools in any way under school boards was anathema to the large body of opinion which held that any form of elementary education must be controlled entirely by persons sound in their religious views. Their opposition was sufficient to kill the bill. Church of England children were saved for the time being from learning the principles of carpentry or chemistry from persons appointed by bodies which might have dissenting or even secularist members. There was something sinister even in the receipt of money from tainted sources! It was the thin edge of a wedge!

But more was to be hoped, or less to be feared, from the new county councils. The new powers, however, were not easy to put in operation. The county councils were just beginning to feel their way and to build up schemes of administration. Moreover, doubtless from fear of flooding the labour market and arousing the opposition of trade unions, technical instruction as defined by the Act excluded 'teaching the practice of any trade or industry or employment', and so boys in the country districts, to the bewilderment of many members of the councils, could not be taught the decaying arts of hedging and ditching, or girls laundry-work or the other duties of housemaids. In towns it was easier because schools under the regulations of the Department of Science and Art could be encouraged or established. It happened therefore that, in rural districts generally, comparatively little was being done under the new powers.

Then came one of the odd accidents familiar in the capricious history of British legislation. In 1890, during the discussion in Parliament of the question of compensation relating to public-houses, the residue of the beer-and-spirit duty was found to be unappropriated. Some supporters of technical instruction, inspired, as he afterwards told me, by Sir Bernhard Samuelson, jumped in, and got the residue of the English share of the duties, amounting to £743,000 for England and Wales, allotted to county councils and county boroughs to be appropriated to technical education as defined in the Act of 1889. This 'whisky money', as it came to be called, gave a new impetus to technical instruction.

Sir Bernhard Samuelson, as the owner of one of the largest British works for the manufacture of agricultural machinery, was interested professionally in the application of science to industry, and in the education of artisans. But it is useless to supply good machinery to agricultural labourers unless these are sufficiently trained and educated to em-

ploy and understand the practical advantages of machinery as compared with hand labour. Labouring men everywhere have precisely the obstinate conservatism which many think a peculiar characteristic of the ruling and possessing classes, and exercise it in precisely the same ways, sometimes by conscientious sabotage, more often by a reluctant and careless employment of the new methods, that results in failures which satisfy them that the old ways are best.

Apart from his particular interests, Sir Bernhard Samuelson was deeply interested in everything that might benefit the population and, as an important member of the Oxfordshire County Council, he hoped that Oxford might lead the way in devising what might be a model scheme of technical education in a predominantly rural county. He asked Llewellyn Smith (now Sir Hubert) to select colleagues who should survey the county with him, take note of the chief industries, examine any existing agencies, and submit proposals for technical instruction in the towns and rural areas. Smith was two years senior to me. We had become acquainted through the Russell Club. He had taken a brilliant degree in mathematics, had won the Cobden Prize, and was Secretary of the National Association for the Promotion of Technical Education. He knew all that was to be known theoretically, but in order to cover the ground more quickly and to have assistance in the physical and natural sciences, he asked Frank Pullinger, who had taken honours in chemistry, and me to help him. And so for some happy summer weeks we surveyed the county, seeing such existing technical institutes as there were, inspecting the few rather badly equipped laboratories in secondary schools, taking note of the industries, from blanket-making at Witney to the manufacture of chairs from the beech woods of the Chilterns. Sometimes we went separately, sometimes in couples. No chief could have been more considerate or more helpful. On most evenings we met at Oxford, and after

dinner put together the information we had collected. As University demonstrator at the Museum, I had a key which gave access to the parks, and often before midnight we had the luxury of bathing where the grass ran down to the river, in water heated all day in the upland meadows through which the Cherwell ran. Then Smith returned to London with our pooled information and ideas, and before long sent us the proofs of the report, which he had written himself and which had the clarity and consecutiveness only possible when a single mind is at work.

Then came my first and last term as assistant to Lankester. He was rather tiresome to Minchin and me, partly, we thought, because of a subconscious wish to justify to himself and to us his intention to replace us. There were two matters in which we thought him deliberately provocative. The laboratory had been in the habit of ordering materials for the practical class, including such microscopic forms as *amoeba*, from one of the dealers. Lankester insisted on cancelling the order, saying that as *amoeba*, *vorticella* and so forth were common in all stagnant water, the demonstrators should get the necessary supplies from the local ditches. He chose to forget that classes could not wait on the weather, and that Oxford in November is not always suitable for open-air collecting. And so I renewed the order, and no more was said about it. Minchin had one lady pupil and I had two, who came to the Museum for private coaching. Lankester assumed a heavy Victorian air; said that the private tuition of ladies by young men after dark was improper, and that in any case it must not take place in the Museum!

The end of term came. Minchin had some money in hand, and was deeply engaged in research. Unexpectedly I was provided for otherwise, at least temporarily, and so I was able to hand over my pupils to him. Presently he got a fellowship at Merton, and except for an occasional storm,

during one of which he moved his work to another part of the Museum, got on extremely well with Lankester, who was infallible in appreciating and encouraging genuine scientific research, and who afterwards got him selected by the Royal Society Committee on Sleeping Sickness, to carry out an important piece of research on the tsetse fly. Edward Minchin was one of the most sweet-dispositioned, unselfish and generous men I have had the fortune to know, and more than brilliant in microscopical work. But he suffered from a congenital spinal affection which made him lame, and often gave him pain. These troubles were reflected in a kind of mental twist which led him to be rude, if there were any possible opportunity, to exactly those persons to whom the worldly-wise would have been civil at all costs. Later on, when Minchin was more than ripe for election to the Royal Society, he proposed to withdraw his name from the list of candidates on the ground of a personal dispute with the president. I went to Lankester, and he and I had much ado in persuading Minchin not to be a fool.

What happened to me was this. The County Council of Devon, at the suggestion of an Oxford man who was science master at Exeter Grammar School, decided to employ some of the 'whisky' money on courses of University Extension lectures throughout the county. Michael Sadler asked Pullinger and myself to go. We accepted gladly, found rooms, and got in touch with the organiser. There were four lecturers. Each was to give the same weekly lecture at six different centres, the courses to extend from February until Whitsuntide, with a break at Easter. Pullinger and I arranged together a syllabus rather similar to what used to be called 'physiography'. It dealt with the properties of matter, solids, liquids and gases, elementary chemistry and physics, very elementary biology, using so far as possible illustrations applicable to daily rural life.

The chief naturally took the larger towns where there

were some sort of conveniences for scientific lectures. Pullinger and I rigged up portable apparatus for experiments, which we packed in hampers, and carried with us an oxygen cylinder and a lantern. The lectures were usually in the evenings. It was before the time of cars, and railway communications were so bad that we seldom got back to Exeter at night. On Mondays I went to Chudleigh, where I stayed the night. On Tuesdays I got to Hatherleigh by train and coach, returned by coach to Okehampton next morning, spent the day on the moor, sometimes on foot and sometimes on a horse which a local magnate lent me, and back to Exeter after an early evening lecture. Thursdays and Fridays, at North Tawton and Totnes, were easy, as I got back at night. Saturday was the worst day; the centre, Lifton, was some distance on a branch line from Tavistock, and I did not get back until Sunday morning.

But it was a pleasant time. I was rather run down in health at Oxford, and Devon air restored me. Varying the same lecture for audiences ranging from secondary schools to cottagers was amusing practice. At a few centres we were put up for the night by the doctor or squire. At others we used the local inns, which were comfortable but primitive. On arrival, the first question was 'blankets or sheets?' Clean sheets were always damp, but I put up with them, as I could not believe that clean blankets were provided for the visitor of a night. To our advantage we were treated as commercial travellers. Before going upstairs you left your boots in the hall, and selected carpet slippers from a great stock provided for customers. After the second visit, by the courtesy of the senior traveller present, we were admitted to the ordinary in the commercial room. The etiquette was strict. At a given moment the chairman would say: 'Now, gentlemen, you may order your drinks'; but, once the drink had come, it was forbidden to touch it until the chairman had solemnly raised his glass to Mr. Vice. Any talk about

business was forbidden, and no newcomer could be asked any leading question, however a rival might be suspected. The travellers appeared to make regular rounds, and as the weeks went by we became recognised and accepted. But no presumption was allowed. A smart young man sat next to me on the Okehampton-Hatherleigh coach two weeks running, and on the second trip I passed the time of day, but was coldly snubbed. Next week he was full of affable apology. He had made enquiries at the inn, and explained very frankly:

'I am very sorry, but I thought from your hamper that you were in crockery. Although we mix at meals, we are careful on the road.'

He travelled in religious books and school prizes, and he had a brother who knew a man who had been at Oxford. A bond. We made friends. A good fellow, knowing the station in life to which God had called him, and even better the stations to which God had called his inferiors.

During our stay we enjoyed the interlude of a blizzard almost as severe as the storm in which Jan Ridd invaded the stronghold of the Doones to carry off Lorna. On the day before, the air was balmy, and March seemed to have anticipated June. I lay on a hillside under a golden gorse bush, watching hunting-spiders at work. No wind to scatter the scents; larks in the air, and a pale blue sky. Next afternoon a keen wind from the east brought a dust of tiny flakes into the station, and when I reached the centre, my host met me in a closed carriage. After the lecture we struggled home on foot in a fall so thick, so dry and so still that the snow up to our knees was almost as light and not more thick than the softly falling flakes, large as butterflies. Next morning a groom helped me to the station through waist-high but powdery drifts, and I reached Exeter in the last train for three days. The London line was blocked; Plymouth was sealed and two trains were buried in the snow near Totnes.

The Devon months were a pleasant holiday. All sorts of people had been very kind to me. I had learned much myself in trying to make things sufficiently simple for people who had to have their intelligence reached, not merely their memories packed. Living had been cheap, and I had nearly a hundred pounds in hand. I had decided to go to Freiburg and do some work with Weismann. But a letter came from Llewellyn Smith telling me that the Oxfordshire County Council had resolved to act on the main lines of his report and were about to appoint an 'organising secretary' at a salary of £600 a year. I applied, and was appointed. Before I was fully at work on the new occupation, I conducted a class of selected University Extension students from various centres. We had been lent the histological laboratory, in which, in the mornings, I lectured, and they examined microscopic preparations. As they were nearly all strangers to Oxford, in the afternoons I led sightseeing excursions, through the colleges or on the river. One afternoon we had gone by the upper river to Godstow, and were straggling across the meadow towards the inn. As we came near the ruins of the nunnery I was telling the group nearest to me the history of 'Fair Rosamund', and seeing what I thought was a girl in a white dress peering through the ivy of an upper window, I said in jest to the group beside me:

'You see, I arrange everything for you; there is the ghost of the Fair Rosamund!'

They laughed and agreed that I was a good provider. That was that. But a few days afterwards, it came into my mind that I knew the ruins at Godstow very well, and that there was no upper storey left. And so I went to satisfy myself. There was no upper storey, and no reasonable possibility of anyone but a cat burglar, and these experts had not yet come into notice, climbing up to the window at which the white figure had appeared. Well! Readers may take their choice. Either it was an authentic ghost, visible to

several observers, none of whom was at the time keyed to mystery, or I had mistaken some trick of light on the swaying festoons of ivy for a visitor, made my jest, and had had it accepted with docility by my companions who had seen nothing at all. But as I don't believe in ghosts, I may tell of another ghost which, as it seems to me, can be interpreted only as an unconscious dislocation of time, antedating a hallucination to a real occurrence.

In Aberdeen I had rooms in the flat of a well-to-do artisan and his wife. The bedroom was large, and gave on the street from which a gas lamp passed a faint light through the blind. My bed faced the window, and on the side farthest from the door there was a large double-doored wardrobe, one side of which the landlady reserved for her own stores. I had been at a dinner of the literary society, at which, without doubt, I had drunk much more than was my frugal habit. When I got into the flat the landlord met me, in his shirt sleeves.

'Little Jim is dying; please come into the kitchen.'

The kitchen was large and served as their living-room. In a small cot, on the middle of the floor, Jim lay gasping. The mother sat weeping on a low stool. I was pointed to a chair at one side of the cot, and the landlord sat down facing his wife, each at one end of the cot. Maybe for half an hour the child lived, the gasps fading into movements which hardly stirred his blue-white face. Then they stopped. The landlord rose without a word, stood on a chair, brought down from a high shelf glasses and a bottle of rum, and poured out a few drops for each of us. The parents were both in tears and silently I nodded to them and went out. It was the first death I had seen, and I went to bed hurriedly. Then this was what happened as I recalled it next morning. I was aroused by the door opening softly, and in slipped little Jim, a gentle figure in his shirt, paddled round the foot of my bed and fumbled at the wardrobe door. I sat up

gasping, and lighted a match; the door was shut and there was no Jim. Cursing myself, I remembered the drinks at dinner and the rum, and contrived to fall asleep again. Presently I was awakened again, but now by a definite tap at the door which opened as I was sitting up shivering. In came the landlady carrying a lighted candle.

'Very sorry to disturb you, sir, but I have to get something out of my "press".' She went round to the wardrobe, opened a drawer and went out carrying something white. Next morning, when she brought my breakfast, she burst into sobs:

'Last night I had to come for a sheet for little Jim.'

But it is a far cry from ghost stories to technical education. Everything was new; there was no experience to guide me, no room in the county hall, and no staff for me. Davenport, the clerk of the council, a genial lawyer, gave me useful and amusing comments on the idiosyncrasies of the members of council with whom I should be most concerned, promised to support me in every way, and in fact carried out his promise. But clearly the last thing he wished was to be bothered with details about technical instruction; he had enough to do with a council not yet shaped into a working body, making its own customs and rules as time went on. Lord Valentia, the chairman, was most kind, but his chief anxiety was how to fit the business of technical education smoothly into the agenda papers. Sir Bernhard Samuelson was seldom in Oxford, and was far too busy with business and with politics to attend to details. He had put technical education on its legs; it was for others to make it walk. But Sir William Markby, retired Indian judge and member of the Supreme Council, was my great support. He lived on Headington Hill, and he and Lady Markby adopted me almost as a son, let me come at any time to their house and befriended me in every way. He was always ready with advice and criticism. He was a regular attender

at council, of great weight with the Tory members, because of his authority and position, and with influence on the radicals because of his advanced liberal views. I was not allowed even to answer questions at council meetings, and Sir William put through all the technical instruction plans.

I used my own rooms as my office, first in the 'High' and afterwards in St. Aldate's, near the post office over a bicycle shop from which, if I remember aright, the great Morris motor car business took its origin. The council had approved Llewellyn Smith's report in a general way. I had to devise particular schemes and to report on proposals made by individual members of council, proposals which for the most part reflected a wish to secure some of the 'whisky money' for their own locality, rather than any coherent idea of the objects of the schemes. A few beginnings were easy. We supplied laboratory equipment to some existing institutions. We arranged lectures on the Devonshire plan at a number of rural centres. I got together a travelling equipment, with oil stoves, for teaching simple cookery and the elements of diet in remote villages, and had the good fortune to find two young ladies, one trained and the other an amateur, with a natural gift for teaching. At the beginning of each lecture they would prepare a simple dish from local materials, set it to cook, proceed with the lecture, and when the lecture was over, there was always competition to buy the cooked food at cost price. The principle that I laid down and that they carried out with complete enthusiasm was not to train future domestic servants, but to show what could be done in cottages to make such food as they could buy pleasant. But I got a first glimpse of the bitter legacy from past injustice: the labourers believed that if their wives were taught to use cheap food, the masters would cut down their wages!

In the county generally there were apathy and scepti-

cism, and much of my work was propaganda rather than organisation. By train, on bicycle and in a dogcart, I traversed the county, trying everywhere to arouse a little practical interest. Everywhere I received personal kindness, but seldom much else. The eighth Duke of Marlborough, short, heavy-eyed, resplendent in a check knickerbocker suit, showed me over Blenheim Palace, gave me a sumptuous luncheon, regaled me with stories of London life, and asked me to come again. But—'these Oxford professors', to whom he attributed the whole idea of technical instruction, 'knew nothing of country life'. Old Colonel Harcourt of Nuneham, uncle of the late Lord Harcourt, agreed in principle, but left it at that. G. H. Morrell of Headington Hill Hall found out that I had recently been demonstrator in the University Museum, told me that he also had occupied the same post, and would talk about nothing but his old chief, Professor Rolleston. The squires generally took technical education only as a part of county council work for which they had not bargained, and any help they gave was out of kindness for a young man who was engaged on a thankless task. The higher clergy received me with chilly politeness and got rid of me as quickly as was decent. The poorer parsons were more helpful, and here and there amongst them there were real enthusiasts, including two Roman Catholic priests and several dissenters. The farmers, as a whole, were definitely discouraging. 'Wages, as it was, were already more than the land could bear, and putting ideas into the minds of the cottagers would lead to demands for higher pay.'

Sir William Markby was always sympathetic and encouraging, and on the whole rather cynically amused by my reports to him on my interviews. He assured me, however, that from what he heard at meetings of the council, I was making a better impression than I feared. Then, with his concurrence, we made a definite assault on the country

schoolteachers. Markby got the use of a room, I think, in the Indian Institute, and I had them to Oxford in batches, made friends with them, found out their aptitudes, split them into groups and helped them with simple syllabuses. Sir William and Lady Markby gave tea parties for them in the garden at Headington Hill, and in time we got things going, and there were quite a large number of extra classes on botany, physiology and chemistry in the rural districts. The teachers were more than glad to earn a little extra money, and before long the better of them undertook evening work in villages near their own, and the failures dropped out.

And so, one way and another, by the end of my first year technical instruction was moving in Oxfordshire, fairly good work in the towns, lectures and peripatetic classes in the rural districts, and a large amount of low-grade but active teaching in country villages. All was going well, when, towards the end of June 1892, Davenport suddenly informed me that the council would expect a full report on the year's work, to be printed and circulated in time for the July meeting. As for the whole year I had been doing nothing except devising, initiating, setting going and inspecting the work, to write a report seemed easy. I began to arrange notes, and made preparations to write. But it was the Home Rule election of 1892. As President of the Wolsey Society, I had got a motion in favour of Home Rule passed, and in triumph we had sent a telegram to Gladstone saying that the undergraduates' society of his own College had been converted to Home Rule. True, as we boasted about it, other members of Christ Church had sent a second telegram stating that the Wolsey Society was not representative of the House, which as a whole was opposed strongly to the disruption of the Empire. Also I was a member of the Eighty Club, and was canvassing in the Woodstock division against the Conservatives. And so my report

remained unwritten, until a hurried telegram came from Sir Bernhard Samuelson, asking me to come to Banbury next day, bringing a proof of the report. The telegram arrived about midday. I hurried to Morris's printing works in Long Wall Street. I explained the position. Mr. Morris, the father of Lord Nuffield I believe, a quiet and pleasant middle-aged man, said:

'Well, it is up to you: if you provide the copy, which I'll send for every two hours, I'll get the printing done; I shall keep some men up all night until it is finished, and read the proofs myself.'

I went back, had luncheon, asked the landlady to bring me fresh tea every two hours until midnight, after which I proposed to rely on beer and biscuits, and got to work. Mr. Morris kept to his side of the agreement, and at half past five in the morning, nearly an hour and a half before my last batch was due, I took it round to the works, and had coffee and sandwiches with Mr. Morris and the printers. Then I went home, changed, shaved and had a bath, and soon after eight I was in the train for Banbury, with two copies of the proof which had been sent to the station to meet me. Samuelson was delighted, made nothing of the inevitable slips, and complimented me on what he said must have been a good many days' hard work! Two days afterwards, the proof revised, I took it to Lord Valentia, who had asked me to spend a night at his house. I expected to go through it with him after dinner, but he said that as Sir Bernhard had told him it was all right, we should spend a pleasant evening, and get up at six next morning to tackle it.

The report went through the council without trouble, and, I was told, with compliments to me. All was well that ended well. True, Davenport pulled a face over the printer's bill, which had been sent to the county hall direct, as it came under the general printing bill of the council and not under the technical education grant. But I explained that

there had been night work as Samuelson wished to see an early proof, and Davenport was not a man to cry over spilt milk.

But I had a more serious shock a few weeks later. Davenport sent a message asking me to come to see him. In these early days the financial arrangements were certainly a little loose. I was given a block grant every month for the estimated expenditure on technical education. It was paid by a council cheque. I had had the sense to open a special account at a different bank from my own. I paid everything by cheque and chucked the receipts as they came into a large tin box. Throughout the year no questions had been asked and no receipts supervised. What Davenport had to say was that the Local Government Board auditor would be coming next week to examine the county council accounts, and that I was the accounting officer for the technical instruction money. No doubt I had been told of that dignity on my appointment, but I knew nothing of accounts or of auditors, and at the most supposed that it meant that I was personally responsible for the proper expenditure of the sums I received. Davenport said that he would prepare a list of the cheques I had received from the council and a copy of the minutes recording the authority given for each of the schemes, grants for apparatus, cookery classes, teachers' classes and so forth. I should have to classify the detailed expenditure under each of the heads, provide the appropriate receipts, make the total agree with the balance at the bank, and then face the Government auditor! He warned me that the auditor was a precisian.

I collected my bank book, had a hurried look at the hundreds of receipts, and decided to leave them until the end, and to begin by comparing the total payments from my diary with the total of the cheques received from the council, hoping to make them agree with the balance at the bank. But many hours of work failed to bring about

that result—I did not know even that cheques for which I had received receipts might not have been presented, and I did know that even a small discrepancy might cover some large error. Despair! Then I remembered a pale, small accountant who acted as the agent for an Oxford moneylender, with whom we had had minor dealings, and sent a note asking him to come to my rooms in the evening to help me with a financial matter. He came, I explained the position, and asked his professional help.

'Well, Mr. Mitchell, Government auditors are tricky people. Are you in a mess?'

'You can see I am in a mess,' I replied, pointing to the litter of papers on my table and the open box of receipts. Then looking hard at me, he went on:

'I don't mean that; is it straight?' I understood suddenly, but was far too anxious to take offence.

'Yes,' I said, 'it is straight.'

'Oh, well!' he replied, 'As that is all right, we can begin anywhere. Let us start on the grants to teachers; you pick out the receipts while I get the authority and the sums you have paid.'

Presently we checked the receipts and payment. One receipt was missing.

'Write for it; he has probably forgotten to send it.'

I wrote and posted the letter that night. Next evening, when the accountant came to me, I produced the answer to the effect that the receipt had been sent, but that if it 'were to get me out of any difficulty, he would gladly send me another, and if so for what sum?' But the accountant's professional conscience was wounded:

'No! That will never do; these country schoolmasters are a dishonest lot, and you would have to pay through the nose afterwards. We'll get the paid cheque from the bank.'

I was sure that the schoolmaster had acted in innocent kindness, and said so.

'Well, you may be right, but take my advice and never let anyone have a pull on you!'

By the end of the third evening everything was in order. Allowing for two cheques which the recipients had not cashed, the bank balance agreed with our figures. When I met the Government auditor, he was cold and very smooth at first, but soon became genial, scolded me for two receipts in lieu of which I offered him the cheques on which the bank had paid, and in the end told me that I must 'have a natural head for figures'. Well, that might have been so, but a head without technical knowledge didn't carry one far. Next day I went to my accountant friend, told him that all had gone well, paid his modest bill, and for a further small payment was allowed to spend several afternoons with him in his office learning the elements of his trade.

The second year was easy. There were a few more schemes to initiate, some old ones to amend or cancel, but I had enough experience to keep my accounts in order, and to collect the materials for the annual report, so that the actual writing of it was easy. I had time on my hands, began to read zoology again in the Radcliffe Library, and to work at the fine collection of vertebrate skeletons in the Museum. But as 1893 went on, I became uneasy at the idea of remaining permanently in Oxford in a post which seemed to lead nowhere and was getting purely administrative. I was writing reviews for *Nature*, the *Daily Chronicle* had accepted several articles, and I had hopes of writing more. On visits to London in connexion with the *Zoological Record*, I had been to see Frank Beddard at the Zoo, and found in the prosectorium endless material and opportunities for research in vertebrate anatomy. Then the post of lecturer on zoology and botany at the Charing Cross Hospital Medical School was advertised. The salary was exiguous, but it would pay a season ticket to London, and the actual work would employ only two afternoons a week during a part of

the year. I applied, got the post, and on the appointed days went to London by the morning train, dissected at the Zoo until lunch time, then did the work at Charing Cross and returned in time for dinner. A little later I got an examinership under the conjoint board of the Colleges of Physicians and Surgeons, tenable for several years. I had a few hundred pounds in hand, took my courage in both hands, resigned my Oxford appointment of six hundred a year, married and went to London in December 1893.

But before passing to other subjects I must pay a tribute to the mellowing and moulding influence of Oxford, especially on young men like myself who came to it angular and aggressive from the confident North. It is a great thing to have lived during early youth in the very heart of beauty. People tell me that Oxford has been spoiled; doubtless it might be pleasanter without the noisy cars and buses in the 'Corn' and the 'High' and the cloud of bicycles passing across Magdalen Bridge four times a day. But the 'Corn' was always the resort of shopping citizens, the 'High' of gaping tourists, and these can shop and gape none the worse for modern traffic. The college quadrangles and gardens are unchanged, stately buildings enclosing shaven lawns and turbulent masses of colour, a perfection of human craftsmanship, made not for show but to be lived in. I know of nothing in its way so beautiful except the flower market in Amsterdam where tall black houses wall in a canal, black as a metal mirror, and black barges reflect their heaped flowers in the water, and spill them over on the black quays. Mallard and swans still breed on the lake at Worcester; there are still kingfishers in Magdalen Walk, and nightingales in Mesopotamia. Only last summer, walking between the canal and the Cherwell, when a hot July afternoon followed a rain-drenched morning, I came across an army of toadlets hurrying across the path, in the same place where fifty years before I had seen for the first time what was meant by a

shower of frogs. There are still kingcups and cowslips and fritillaries in the water meadows, if you know where to look for them. And there is still the rim of low hills from which you can look down on the city of spires dreaming in its plain. Nor have I found, out of Oxford, any company of men more conscious of the past and yet more avid and more tolerant of the present and the future. There is no heresy so startling, no menace of change so alarming, that it cannot be advocated by some, denounced by others with the same bland appreciation. Honour to the past, charity for the present and hope for the future are the background of Oxford thought. Nor could they find a more natural home than in the wise and gentle mind of J. A. Stewart, Student and Tutor of the House, Professor of Moral Philosophy in the University. The year before he died, we were talking about Russia. 'Yes,' he said, 'Lenin was more human in his idealism than Plato. But', he added, looking round the sunlit quad where we were waiting to go into the 'Gaudy' dinner, 'this is my fiftieth summer term in Christ Church, and the Russian régime seems a little harsh.'

For me Christ Church is the centre of Oxford. Fortunately when I took the 'Master's' degree I was able to keep my name on the college books, and no honour that has come to me gave me so much pleasure as when last year the governing body elected me an Honorary Student.

The House 'Gaudy' is held at the time of the Encaenia and it is a custom to invite to it those on whom honorary degrees have been conferred by the University. Two of these events linger in my memory. Lord Rosebery, then Secretary of State for Foreign Affairs, and at the height of his fame, was asked to speak before dinner was finished, as he had to hurry back to London. Gay, debonair, a picture of happy success, he told us that a Doctor's robes sat uneasily on his shoulders, as the Dean had closed his undergraduate career by sending him down for refusing to give

up his racing stable. He said something about the Derby, something about the Empire, something about Oxford, and then shaking hands with the Dean, jumped down from the platform on which the high table stands, gathered up the skirts of his gown, and ran down through the Hall whilst we all stood up to cheer him. Much later, soon after the War, Clemenceau was the chief guest. Very old, very white, but his tense emotion not disturbing his incisive articulation, he spoke of Britain's part in the War and of how, after intolerable years, he had seen his hopes for his own country fulfilled. Then raising his voice, he said, as I remember the sense rather than the words: 'My part is played, my days are over, and I am going to Brittany. Am I happy? I do not know; I am so old and so tired. But of this I am certain, and I ask you young men, the makers of the future, to remember it. I doubt if any object is worth the horrors of war. It may be that your only object should be, to use an English phrase that may displease you, "Peace at any price".' When he sat down there were a few seconds of dumb emotion before we remembered to cheer him.

Another figure of a different kind of celebrity I met for the first time at Christ Church, but not at a 'Gaudy' nor on the occasion of honorary degrees. In July 1934 the International Ornithological Congress met at Oxford, and the sessions ended with a dinner in Christ Church Hall. Sitting next to me was ex-King Ferdinand of Bulgaria. He was a large gentleman with a soft voice and a large gentle face, richly dressed and heavily jewelled, a picture-book old king, very different from the popular wartime conception of him. The congress was coming to Whipsnade Park next day, and he asked me if he could come separately and go round the park in his private car, as the charabancs we were to provide would tire him. Next day, accordingly, I spent several hours with him and his daughter, going round slowly and getting out of the car at the points of interest.

He was a real lover of nature, full of knowledge of the appearance and names of birds and plants, and full of the same kind of joy as Ray Lankester showed, at the sight of living things. A set of tiger cubs were bathing in their sunny pool; he stood in front of them for nearly ten minutes, laughing softly and clapping his hands.

Some flickering memories from earlier days in Oxford.

Ruskin, a small stooping man in an untidy frock-coat, with a rugged face and soft almost startled eyes, came round the Museum with me after one of the Slade lectures which I was attending. He asked to be shown some of the shells, and talked, much as in *The Lamp of Beauty*. Running his finger lovingly along the lines of the shell, he made me notice the delicate perfection of the structural form and the irregular almost random way in which the colours were splashed on the surface. I pleased him by suggesting that the colours were by-products of the internal physiological processes exuding to the surface with the same irregularity that a creeper may climb over a tower.

Professor Freeman, the historian, was living with his daughter, Mrs. Arthur Evans, in Holywell. On Sunday evenings there was often a kind of evening party at which coffee was served. Freeman used to sit in an armchair in the inner drawing-room, a heavy and silent Buddha-like figure, not talking to anyone, apparently asleep. It was an awkward honour, which sometimes fell to me, to be asked to take a cup of coffee to him. It was rather like trying to get a sulky patient to take his medicine.

Charles Gore, then Principal of Pusey House, afterwards Bishop of Birmingham, was trying to break down the conservatism of Puseyism by finding some kind of synthesis, or at least common measure, of the principles of liberal thought and the core of Christian dogma. He announced a course of lectures on miracles to which I went with others. Gore, tall, bearded and deliberately unecclesiastic, spoke

almost in the language of rationalism, explaining how in the early centuries of Christianity little evidence was required for miracles, as these were accepted as not more surprising than anything in the routine of nature, eclipses, earthquakes, the mysteries of birth and of death, victories and defeats, diseases and restorations to health. He described with humour and sarcasm, mingled with toleration, some of the early miracles, and at least made credible the belief in them. The last lecture, announced to be on the miracles recorded in the Bible, we awaited with a keen expectation, but it was first postponed and then not given, at least in my time. Perhaps the trouble over *Lux Mundi* had persuaded Gore that the Church was not yet ready for complete intellectual integrity. Probably it never will be ready.

I spoke to Dodgson (Lewis Carroll) only once, when I happened to sit next him at high table. The author of *Alice in Wonderland* was then a thin, frail man, looking old for his age, which must have been round about sixty. He was reserved and slightly hesitating in his speech, but he brightened when I spoke to him about his odd little book on logic, issued with a pocket in the cover, holding coloured slips of cardboard by which syllogisms could be turned into mathematical certainties.

Three other figures it is impossible to forget. Burdon-Sanderson, the Professor of Physiology, of all the distinguished men I have known, was the most distinguished in appearance. His tall, gaunt, slightly stooping figure, and his cameo-like features, made him the image of a medieval ascetic saint. To his assistants and students he was untiringly kind and helpful; but he was not popular in Oxford, partly, I think, because of the incisive, unconciliatory part he took in university politics relating to science and the medical school, and partly because anti-vivisectionists regarded him, in fact the most scrupulous of men, as a grand inquisitor. Sir Henry Acland, Regius Professor of

Medicine, tall, stately, bland, was a composite portrait of all that Court physicians ought to be. You could imagine any king feeling it an honour to put out his tongue for the inspection of Acland. He was fond of showing the great round the Museum. At that time the show-cases were arranged in squares enclosing each a space for a table and chair, with a curtained entrance. As one sat working, the booming voice of Acland would be heard coming nearer. 'There', it would say, 'is an example of the marsupial wolf,' and then, suddenly drawing the curtain, 'and here is one of our students.' E. B. Tylor, the anthropologist, was curator of the Museum and occupied an official house at the west side of the Museum. He was tall, bearded and voluble, untiringly hospitable, but supposed to be rather an obstructive in Museum politics. Clifton, Professor of Physics, occupied another official residence in the Museum grounds. He liked me to visit him in the evening and sit up to all hours smoking clay pipes and talking. It was the last duty of one of the servants to collect the silver in a basket and carry it up to his room, for the professor feared burglars. One night, as he told me, sitting alone long after the servant had gone up, he heard the slow tread of someone going up the stairs. He rushed out, but there was no one. He happened to be engaged, or out, for several following nights, but next time when he was alone in the silent house, he heard the same stealthy ascending tread. Again no one. But he did not believe in ghosts, and next day made an elaborate investigation to find a physical cause. He found that if a heavy weight were carried up the stairs slowly, each step took a set. After a time, the steps sprang back into their place, in regular order, from the lowest up to the landing, not audible by day, but by night giving the sound of ascending footsteps. Memory is a little like that, and I must stop listening to the awakening chains of memories.

CHAPTER VI

Germany until the War 1887-1914

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Germany played so large and so unforeseen a part in the lives and thoughts of men of my generation that I shall collect more impressions and memories. From 1887 to 1893 I spent many Easter vacations in Leipzig and Dresden, chiefly on holiday with friends who were studying music at the Leipzig Conservatorium, and I also entered for a summer session at the University, taking the course given by Professor Leuckart, Germany's most distinguished parasitologist. The medieval personality of Leipzig was then almost unchanged, the patina of modernity which transformed German cities coming later. The tall and stately old *Rathaus* stood high over the narrow streets and steep-pitched roofs. There were old-fashioned beerhouses, each vending a distinctive beer in distinctive mugs, some wooden, some shallow bowls of thin glass like those in which Berlin white beer is sold—a pale thin liquid very restoring on the morning after the night before. Life was simple. University lectures began at eight in the morning, or rather a few minutes after eight, as the *akademisches Viertel*, the quarter of an hour's grace, was observed, more or less irregularly. Leuckart, white and plump, used to bustle into the lecture room and, striding backwards and forwards behind the long desk, flurried and gesticulated through his rhetorical lectures, disappearing as suddenly, but later on making occasional visits to the students' laboratory, which was in charge of an assistant.

At noon the work for the day was over, except for advanced students or others doing research. The midday meal was taken in a restaurant; by buying a dozen tickets in advance, one got for less than a shilling an excellent meal of soup, hot meat, vegetables, and sweet fruit salad, and some kind of cake. The tip was a penny, and a glass of beer twopence. In the afternoon, when I was not in the laboratory, there were boating parties on the Pleisse, excursions to the country to collect caterpillars and butterflies. In the evening there were concerts and dances and beer parties. Altogether a wholesome and merry life. I had the honour of being admitted as a guest to one of the students' corps on the afternoon when candidates for full membership were being tried. As everyone knows, places of real danger on the head and neck are protected by masks of wire and leather, the weapons are as sharp as razors and all the play is done with the wrist and forearm. But it was a wonderful test of dexterity and resolution, for to flinch was a disqualifying disgrace. There could not be a better training for concerted action of the mind, the eye and the muscles, and even the flabbiest of the members of the corps had erect posture and hands and forearms of steel. The only stupid part of the business was the care taken to dress the cuts so that they might leave permanent scars. The students were simple and friendly, more exuberant than young English or Scottish men of the same kind, and, as it seemed to me, with much less individuality, all with the same opinions upon everything. Perhaps it was because I mixed almost wholly with those who were working at zoology, or at music, that I came across no aggressive patriotism; I made many friends, amongst them several who were professors in 1914, and it was a surprise to me when their names appeared in lists of the most clamorous protesters against British perfidy. There was one exception, however, who during the War sought out British prisoners who were interested in science and lent them books.

Only two incidents at Leipzig of any significant kind remain in my mind. Eduard Ullstein, of the great Leipzig printing and publishing firm, was a friend of a young English musical friend of mine, and I became more or less intimate with him. He was young, good-looking, cultured, a man who elsewhere would be accepted as a gentleman in every sense of the word, and he was also a horseman, a fine shot and a fencer. But he was a Jew, and although his wealth had enabled him to do his military service as a one-year *Frei-williger* in a cavalry regiment, he was not accepted as an equal by his companions. 'They borrow my money, ride my horses, drink my wine,' he told me, 'but they will not come to my house or invite me to theirs.' And although he was keen on soldiering and would have preferred a military career to the family business, there was no future for him in the army. It was my first contact with anti-Semitism. The other incident was an unpleasant brush with German manners. I had taken a new microscope, for me a costly one, to Leipzig. One morning, after an absence of several days from the laboratory, I found that my microscope had disappeared. An assistant left the room and came back presently with Leuckart in a dressing-gown. The professor stormed at me, saying that it was all my fault for being away from the laboratory, that I had brought disgrace on the institution. The reproach for idling was just, but seemed ill timed. Soon, however, he cooled down, sympathised and advised me to report the matter to the police. This I did, but nothing further happened before I left Leipzig, and a few weeks later I wrote again, and received after some time a reply to the effect that the police had no doubt but that I had sold the microscope myself with the object of extracting another from my parents!

But through all these years from the early eighties to the early nineties Germany for me was first and foremost the land of zoology. The battle for the theory of evolution had

been won, and biologists were engaged chiefly in working out the pedigrees of living things. In paleontology, in comparative anatomy, in embryology there seemed more than enough to do in finding further evidence for the interrelationships of animals and plants and the places that the living forms and their extinct ancestors occupied in the Darwinian tree of life. In England, Huxley had almost passed from detailed work on comparative anatomy and paleontology to more general questions bordering on philosophy. In Oxford Moseley and his pupils, in Cambridge Frank Balfour and his pupils, in London Ray Lankester and his pupils, and in Manchester Milnes Marshall, were our leaders. In the United States Cope and Marsh were tracing the pedigrees of mammals and reptiles. In France there were two or three zoologists to whom we paid attention. But from almost all the many universities of Germany there was a vast output of zoological work, and the marine biological station at Naples, founded and controlled by Anton Dohrn, a German, was an international centre where nearly every evolutionary biologist went to work during some time of the year. To read German and to know Germans were necessary parts of education and research in zoology. It is historically correct to say that Germans played a preponderating part in the enormous output of work in that decade which settled for all time the fact of evolution.

On the theoretical side Charles Darwin was the undisputed prophet, and it was not until later that the rediscovery of Mendel brought a new method of enquiry which gave almost as great a stimulus to biology as Darwin had brought. Naturally there were still opponents of Darwinism, but none of these had sufficient biological knowledge to appeal to scientific biologists. Naturally, also, there were differences of opinion regarding the details of Darwin's theories. The most important difference concerned the part played by natural selection, and Darwin himself from time to time

had wavered as to how far selection was the chief cause, the sufficient explanation of adaptation of species to their environment. Then a new prophet arose, Dr. August Weismann, Professor of Zoology at Freiburg, who became the most important influence in theoretical biology. Although Huxley and Haeckel had been the leading exponents of Darwinism to the world, there was no such thing as Huxleyism or Haeckelism; although they made the torch flame more brightly, they did not alter the nature of its fire. But Weismann gave rise to Weismannism, as later on Mendel became Mendelism.

Like Darwin, and unlike Huxley and Haeckel, Weismann was a naturalist in the plainest sense of the term, profoundly interested in living things as organisms in relation to their environment, and more curious about their life-histories than about their structure. But, unlike Darwin, from the first Weismann never seemed to doubt but that if observation were sufficiently careful, the 'selection-value', the utility to the living thing, whether embryo or adult, in all its phases of its colour patterns and habits, could be detected. His work on mimicry, on protective adaptations in plants, on the instincts of animals, on the duration of their lives, on the origin of flowers, were all in the exact method of Darwin, instances of deductions drawn from a close scrutiny of nature by a sympathetic intelligence. But the deductions were more Darwinian than Darwinism, more resolutely bent away from every factor except adaptation through selection.

But Weismann also pursued a line of enquiry which Darwin had left almost untouched. He had made a set of brilliant investigations into the microscopical processes of the development of insects, and had spent years in preparing a monograph on the development of some families of the medusae or jellyfish. These enquiries, together with study of contemporary work by many other zoologists, had led him to

the conception of the germ plasm and its continuity. Why does a speck of living matter, sometimes the single product of the mother, sometimes the female cell fertilised by union with a male cell, reproduce all the characters of the race, sometimes even slight individual peculiarities of the parents? The results were the same whether, as in mammals and many other creatures, the fertilised cell remained through its early growth and development in physical connexion with the mother, drawing its nutriment, and so conceivably some at least of its qualities, from the maternal tissues, or whether, as in a still greater number of creatures, the fertilised egg left the body of the mother and grew up independently, drawing its nourishment either from a store of unorganised yolk, or from the outer world.

There were many theories, and no knowledge. Some supposed that, at the creation, the Creator had placed the seeds of all future generations one within the other, as in an infinite Chinese puzzle-box. Others deduced the existenceof a mystical force, a power resident in living matter, of shaping circumambient materials, granted the requisite conditions of moisture, temperature and so forth, into its own form. Darwin, rather to demonstrate the complexity of the problem than in an attempt to explain it, had propounded a theory of pangenesis, to the effect that every cell and tissue of the adult body might give off gemmules, minute bodies, which passing into the blood might reach the reproductive organs and be stored in the egg cells and spermatozoa, ready to produce their like in the development of new individuals. Weismann showed in certain actual cases, and inferred that further research would show the process to be universal, that the fertilised egg or the parthenogenetic egg, at the very beginning of its development, divided into two portions. The one grew at the expense of the surrounding media, multiplied rapidly, and in obedience to its inherent or inherited qualities shaped itself into a new organism like

its parents. But in that development it changed its qualities; instead of remaining a plasm with the complete possibilities of the race, it became the different tissues of the animal or the plant, losing the greater part of its reproductive power. Nerve or muscle tissue might remain capable of producing more nerve or muscle, but lost the wider reproducing capacities. Becoming specialised, they became mortal. This portion was called the 'somatoplasm', the plasm that built up the body. The other portion of the original mass remained practically unchanged, being handed along passively through the constructive changes of the developing embryo until it came to lie in that portion of the new individual which was to be the seat of the reproductive glands. This second part was the 'germ plasm', a material handed on from generation to generation in unbroken chain, at each generation dividing into a part which blossomed out into the new and mortal individual, and into a part, potentially immortal, which formed the reproductive cells of the new individual. The individuals of each generation were pendants from the continuous chain of germ plasm.

The first fruit of the conception of the germ plasm was the theory of the non-inheritance of acquired characters with which Weismann's name became associated. If the germ plasm, separated from the egg cell from the beginning to carry on the qualities of the race, remains distinct from the body, how are the stresses and strains of the environment which affect the body of the adult to reach the germ plasm and to modify it? How in fact are qualities acquired by the body during life to be transmitted to the germ plasm in such a form that they reappear in the next generation? This theoretical difficulty, which arose from actual microscopical observation of the mode of origin of the reproductive organs in the individual, led Weismann first to an experimental examination, and then to a denial of the inheritance of acquired characters. Here again, he became more

Darwinian than Darwin, for Darwin, although leaning against the Lamarckian factor of use-inheritance, never actually rejected it. Thus began a great controversy which lasted for years and is not yet ended. It split biologists into Darwinians in Weismann's sense, Lamarckians and neo-Lamarckians, aroused Herbert Spencer who thought evolution impossible if deprived of a factor on which he had laid chief stress, and interested even politicians and educationalists.

If I were writing a history of the theory of evolution, I should have to point out that Mendelian theory and experiment on the whole weighed against the inheritance of acquired characters, but that the discovery of hormones, invisible chemical messengers poured into the blood by almost every organ and tissue, seems to provide a mechanism by which characters written on the adult might be transferred to the reproductive organs. But I am concerned now only with noting the influence of German work and thought on the side of science on which I was engaged. As I was following German zoological literature I came in contact with Weismann's work very early, and was one of the first to send abstracts and accounts of it to English scientific and popular periodicals. In 1887, at the meeting of the British Association in Manchester, Weismann and Wiedersheim were guests of the zoological section, where I made friends with them, largely from the circumstance that the Manchester International Exhibition was open and both the Germans were anxious to spend much time there, partly in the picture gallery, and still more on the scenic railway, a form of amusement new to us in which I was a willing companion.

Afterwards Weismann sent me separate copies of his papers and memoirs as they were published, so that I became in a way the exponent of Weismannism in this country. That led to the only direct contact I had with Gladstone. On a summer evening, in 1889 or 1890, I was a

guest at the high table at Keble College, Oxford. Talbot, then Warden, had brought Gladstone and Canon Aubrey Moore as guests, and, as it was after term, there were only eight or nine persons in the senior common room. I happened to be placed almost exactly opposite to Gladstone, and had to revise my impression of him as a somewhat austere and rugged person. In fact he was dressed with a glossy correctness, and was full of geniality and courtesy which extended even to the two unknown young men sitting opposite him. Aubrey Moore, whom I knew slightly, was a churchman with a philosophical bent, and very keen on what was going on in scientific theory. Somehow the talk between him and Gladstone came round to the question of the inheritance of acquired characters, and Moore, indicating me, said: 'That young man can tell us all about it.' And then for nearly twenty minutes Gladstone, asking me to begin from Darwin, and helping me with leading questions, put me through the whole story—Darwin and Lamarck, Weismann and the germ plasm, the reasons for doubting the inheritance of acquired characters, and such experimental work as there had been. No one could have been more eager, courteous, or less ready to dispute. Moore now and again tried to lead the talk into theological matters, but Gladstone did not bite, and what I think pleased him most was his own conclusion: 'Well it is all very interesting and at present, if I may venture to say so, in a somewhat equivocal state, but', and then he smiled, 'in any case it must be rather unpleasant for Mr. Herbert Spencer.'

From my Oxford days, and indeed until the War, when it became impossible to get German books and periodicals, I took little interest in German politics. Even the acrimonious controversy over the death of Frederick III left me cold, but I was ready to believe that the German doctors who had diagnosed cancer in the throat in May 1887 and had advised immediate operation were right, and that Sir

Morell Mackenzie, the English specialist who disputed the correctness of the diagnosis, was either mistaken or acting from diplomatic motives. The whole story is set out at length in the reminiscences of the late Sir Felix Semon, edited by his son. But what was overlooked in the controversy at the time, and has not been sufficiently recognised since, is that there was nothing sinister in the selection of Mackenzie. Whatever might have been his diagnostic skill, his position in London as a throat specialist was such that Queen Victoria, seeking out a British specialist to give an opinion on the illness of her son-in-law, would have selected Sir Morell Mackenzie as inevitably as the Court would now look to Lord Horder or Lord Dawson of Penn for a medical opinion on an important case.

William Heinemann in 1896 published for me in his scientific handbooks, under the title *The Biological Problem of To-day*, a translation of a book by Oscar Hertwig, who disputed the later elaborations of Weismann's germ theory, and laid stress on the power of the individual organism to respond to special and unusual conditions of the environment, and so became a pioneer in experimental embryology. But my friendship with Heinemann led to an amusing adventure. A Viennese publisher wrote to him saying that Dr. Leopold Schenk, professor in the Imperial University, and Director of the Embryological Institute, had discovered the secret of sex, and was sure that by a simple treatment of a pregnant woman, he could determine the sex of the developing baby, turning it into a male or female as might be required. He offered the English rights of the book, at a huge price. William, bubbling over with commercial excitement and natural curiosity, telephoned to me and I hurried to his office. For a few minutes he stuttered and chattered, pouring out his views as to the vast importance to dynasties, hereditary dignitaries and even the general public. I urged that the secret would be out with the

first review of the book and that the detailed description of the process, even if it were always successful, could not be expected to command a large sale, and advised him at least to send for the manuscript before making any decision. He sent a long cable to Vienna. When we came back from lunch in the Savoy grill-room, the answer had arrived. The offer must be taken or left, blind; so great a secret could not be trusted even to Heinemann. I was obdurate. More cabling; hurried interviews with American agents in London. Next day the matter was arranged. The Viennese publisher was to bring the manuscript to Brussels. I was to go there, for a handsome fee, and under strict pledge not to divulge the secret even to Heinemann, I was to be allowed to see the manuscript for half an hour in the presence of the German, and advise my employers.

I knew the literature on sex-determination well, and had myself made some inconclusive experiments by giving different diets to developing tadpoles. We met in a bedroom in a Brussels hotel, the publisher after a night's journey from Vienna, I from London. We sat in two armchairs, facing each other, he, I suppose, watching lest I should be taking notes. The secret boiled down to the theory, not in the least new, that sex depended on diet, and Schenk's special view was that the arrangement of the diet both before and during pregnancy should be such that to produce a male child there should never be any trace of sugar in the urine, and on the other hand were it so arranged that excretion of sugar revealed a less perfect metabolism, a female child would result. The empirical evidence for the success of his method was insignificant, and the method seemed to depend on a vague secondary theory that a female ovum or embryo was of a lower physiological grade than one destined to become a male. At that time there had not yet been discovered the microscopical evidence for the determination of sex at the fertilisation of the ovum, but I had no difficulty in

deciding against the book, well within the half-hour allowed me. The Viennese was anxious to know my decision, but I said I must report verbally to my friends in London, and allow them to decide, although of course I would preserve the actual secret. He had to return to Vienna that afternoon and proposed that we should lunch together and then that he would take a carriage and see the town, in which he had not been before.

He was a friendly, jovial man, and when I had got attuned to his strong Viennese accent, we became almost intimate. We had one of the astounding, succulent luncheons and several bottles of the rich Burgundy Belgium offered before the War. About two o'clock I reminded him that he had not much time for sightseeing. He retorted that there was plenty of time, as there was only one thing in Brussels he wished to see, the famous street fountain in which the water spouts from a natural aperture in a naked boy. And so we drove in state to the 'Manakin-piss', alighted whilst he took photographs, and then to the station where I saw him off. On my report the offer was declined in London, to the disappointment of Heinemann, who however cheerfully paid my fees in the fashion of his race, who, although they may drive a hard bargain, do not grumble when it goes against them. He was relieved, however, when the book was published by another firm and the 'secret' rejected by scientific men.

From 1893 onwards my holidays were spent in France, and until 1903, when I became Secretary of the Zoological Society of London, my relations with Germans and Germany were chiefly scientific. But soon after I became secretary, Carl Hagenbeck, than whom I have known no more attractive personality, called on me. He was a tall, lean man, with a bony, weatherbeaten face, shaven lips, and a short 'chin fringe'. His shrewd and kindly face, slow speech with nasal intonations, and general air of confident but watchful

friendliness, distinguished him from such Germans as I knew. But for the presence of a German accent (he preferred to talk English) and the absence of the tobacco habit, he might have passed for a New England ship captain. The park at Stellingen was not yet born, but Hagenbeck was then the greatest living dealer and importer of wild animals, and has never been surpassed. He was an excellent business man and able to anticipate the market he could secure for animals which he had procured from all parts of the world. He had a genuine affection for animals, understood their wants, as if by instinct, and secured that his agents brought their captures home under the best conditions. He was a pioneer in the housing and exhibition of animals in captivity.

The conception which had ruled the minds of those who planned zoological gardens had been a compromise between a travelling menagerie and a museum. Above all there was a fear of fresh air, draught and cold. When I first had charge of living animals in London, I was already indoctrinated with the views of Leonard Hill, my friend and colleague at the London Hospital Medical School, and was determined to do what I could in the way of providing more space for exercise, more fresh air, and less confinement in small artificially heated houses. But practice and opinion were against me. It was therefore a comfort and a pleasure to find at my first interview with Hagenbeck that not only did he share my views, but could support them with a practical knowledge and experience which I did not possess. Thereafter until his death in 1913, fortunately before the War, which would have been a great grief to him, Hagenbeck remained my friend and adviser, and I am glad to think that when he was developing his park at Stellingen, he took some ideas from me. He always came to see me when he was in England, and I returned his visits when I went to Germany, as I did most years, to see anything new in the

German gardens. Although he was building up a prosperous business and the Kaiser had honoured him, the French Government had awarded him the diploma of the Academy, and the Zoological Society of London their silver medal, he remained a simple-living homely German. Once I was much amused by him. He had asked me to go to Berlin with him to inspect a wooded site over which he had an option, and where he was thinking of establishing a zoological park on a scale even greater than Stellingen. We breakfasted early, drove to the site and spent a fascinating day going over every yard of the ground, discussing where native villages might be placed, where lions, where tigers, where scenes representing the steppes of Asia, the plains of Africa, tropical forests, caves and lakes, and then returned to Berlin to dine in an open-air restaurant. Looking at the bill, I ordered soup, fish, a cutlet, sweet salad, fruit and a bottle of Moselle. He listened to my talk with the waiter and said: 'You happy young man, you can still eat anything; now my stomach is weak and I have to be careful.' Then he had a long talk with the waiter in a quick German I could not follow. Presently came in a huge empty basin, a bowl of potatoes steaming through their jackets, half a dozen or so plump salted herrings, shredded pickled cabbage and condiments. Taking his time, Hagenbeck dissected the herrings, peeled the potatoes, mixed the two in the great basin, adding the *Sauerkraut* and vinegar, and proceeded to affront his delicate stomach with the mass.

He was a great showman and trainer of animals, and the lucrative part of his business—for he made little profit on the sale of the rare animals his expeditions brought back—was the formation of troupes and circuses which he sent to every part of the world. On the training of animals for shows I was never able to agree with him. All my life I have tried to avoid those emotional judgments which interpret the behaviour of animals in terms of human feelings.

I do not believe, for example, that a fox enjoys being hunted or, on the other hand, that it has any trace of the active terror of a man being run down by bloodhounds. For many years I seldom lost an opportunity of seeing exhibitions of performing animals, but I came to the conclusion that, with the possible exception of sea lions, terror of the trainer lay behind the tricks, a conviction that was not disturbed by the rewards of food that were given. But that was not Hagenbeck's opinion, and his love of animals and knowledge of their reactions entitled his views to very full consideration. He began with the proposition, long ago set out by Darwin, that the first business of the trainer was to select his animals. Individuals have different dispositions, and only one or two out of many have the powers of attention, ability and docility required by the trainer. Afterwards, the method is little more than patience, firmness and kindness on the part of the trainer. So Mr. Hagenbeck; and certainly animals knew him, remembered him after years of separation, and I believe that, taking advantage of the natural instincts of individual animals, he could produce what seemed intelligent behaviour. In the cases of wild animals I have myself kept as private companions, notably a caracal and a tree hyrax, it was difficult to believe that they did not know, in the human sense, what they were doing. But interpretation is dangerous. One of several trained chimpanzees, known successively as 'Consul', which were exhibited in London and elsewhere before the War, had a private performance which was shown to privileged witnesses behind the scene. It would be taken to a water closet, would pull down its breeches, sit on the seat, use toilet paper, pull the plug and rearrange its dress. But I was sceptical, and found out that the trick had no physiological accompaniment, and more than once within a few minutes of the private exhibition the chimpanzee would have an accident familiar with young children, and have to have its breeches changed!

In one point, however, Hagenbeck was in agreement with me. Even the most highly trained animals are sometimes petulant and wilful and refuse to perform a familiar trick. Concessions have to be made to commercial success, and hours have to be observed in public exhibitions. But except where the immediate reward was food, which the performers seldom refused, he preferred to have alternative individuals or exhibitions, so that there was no need to force temporarily reluctant animals. And he disliked most 'animal turns' at music halls, where at a given moment the animals had to appear, and, willing or reluctant, be pushed through their 'show', in time to make way for the next item on the bill.

Let me turn to an even more distinguished German of whom I have a brief personal recollection. One morning, in May 1911, I got a telephone message to say that the Kaiser wished to pay an informal visit to the Zoo, that he would come within half an hour with a British admiral in attendance, and could I receive him entirely without ceremony? He came punctually, in ordinary morning dress; I was presented, he shook hands, and was at once very simple and friendly. I knew of his withered arm, but saw no trace of his being in any way discommoded. I asked him what time he had and what he would like to see. He said that he had about two hours, and added with a smile, 'Nothing in particular: I wished to get away from all that down there,' jerking his head back towards London, 'and have a quiet talk.' I said something civil about the number and beauty of the zoological gardens in Germany and especially how excellent were the German keepers. A kind of mystical look came into his eyes; he threw back his head and said, 'Yes, but my people are good in everything.' He said how pleased he was that the Zoological Society had honoured Hagenbeck, for whom he had a great admiration. Next he asked me what I thought of rumours he had heard from German East Africa

about the existence of unknown gigantic creatures, probably reptiles. I threw out doubts. He retorted: 'You are a sceptic; Africa is still unexplored; out of it anything may come.' I reminded him how quickly the advance of civilisation killed off wild animals and plants, and propounded a favourite scheme of mine, that before it was too late, large tracts of wild country in Africa should be set aside as perpetual reserves and be protected by international agreement, so that even in the case of war they should be inviolable neutral territory. He said at once: 'But there will never be war between my country and England, in Africa or in any part of the world. Germany and England must together preserve the peace of the world. But I like your idea of international reserves, only you will never get the French and the Belgians to agree. They want Africa only to get money out of it.' Then we passed to lighter topics. We walked up and down the central avenue, the admiral a few paces behind. Every now and again the Kaiser would take me by the arm, swing me round, facing me to emphasise something. I remembered that he was supposed to have a taste for gay stories, and told him several, including a venerable tale which delighted him. As a joke someone had removed the eggs on which a bantam hen was sitting, and replaced them with a set of brightly painted Easter eggs. The bantam cock returned, surveyed the eggs and then went out and killed the peacock. The Kaiser replied with stories which went to a limit far beyond mine, and now and again, before beginning one, he would say, 'But this will do the admiral good, he must hear this one.' And so calling up the admiral, he would tell his tale, delighting in his knowledge of Anglo-Saxon words. The admiral, certainly rather a formal person, would stand to attention and say without a trace of a smile: 'Ha! ha! Sir, very good indeed, Sir.' As he turned away the Kaiser winked at me. A quarter of an hour before his time was at an end, the Kaiser said that he sup-

posed he must see some of the animals as he would have to talk about them. I found that he had got information of what were our chief rarities, and was able to show them within the time. Well, that was my personal impression of the Kaiser; bluff and breezy, very ready to be informal and familiar, but a great gentleman, and, at the same time, for moments undergoing a sudden almost mystic transfiguration as if he were returning to a dreamland which was his real world.

In all the years from 1903 to the outbreak of the War, in the many visits I paid to German zoological gardens and in the many return visits I received in London, I found nothing but friendliness, desire for co-operation and willingness to exchange plans and ideas. But in another scientific matter, Germans became increasingly tiresome. The Zoological Society of London had issued for many years an annual volume, under the title *Zoological Record*, which endeavoured to give a classified list of the titles and places of publication of the vast yearly output of the results of zoological research, together with classified indexes to their contents. Although these volumes were invaluable to working zoologists and had a fair circulation in the United States and on the Continent of Europe, there was an annual loss which the Zoological Society paid as part of its contribution to the advance of knowledge. But in 1900, under the auspices of the Royal Society, there was founded the *International Catalogue of Scientific Literature*, a publication which in thirteen annual volumes endeavoured to do for all branches of science what the Zoological Society had been doing for zoology. It was managed by an international council which was to meet at five-yearly intervals, a permanent committee with representatives in each of the principal countries, and a small executive committee in London. Most of the governments gave support, chiefly in the form of undertaking to buy so many annual sets for distribution in their own

countries. From my connexion with the *Zoological Record*, I was appointed a member of the London committee. There were difficulties from the first. The general principles had been laid down and agreed to in advance, but as the work proceeded, modifications became urgent. My friend, Professor Henry E. Armstrong, the chairman, was an advocate of international co-operation, so ardent that in the opinion of some of us he would have preferred minor inefficiencies to any friction with foreign representatives. I urged that we should get on with the job and take our scolding at the next quinquennial meeting. As a compromise, we agreed at least to consult the foreign members of the general committee as to the changes we thought necessary. We got consent, tacitly or in writing, from the other countries, but the Germans were always argumentative and, if their counter-proposals were not accepted, insisted that no change must be made until the next quinquennial conference.

In another way they were even more impractical. It is difficult to decide as to whether or no any individual publication is of sufficient scientific merit to be worth permanent record, and mistakes of omission have often been made. The *Zoological Record*, for example, followed contemporary science in overlooking Gregor Mendel's account of his experiments, published in 1865, although these opened a new world of biological theory and experiment. But the Germans thought everything of value were it published in Germany. If there were remarks in a German local paper on the employment of sulphur in dusting vines, or the early appearance of a cabbage butterfly, they were sent in, titles and references complete, until a single volume would scarcely have sufficed to contain the mere list of German titles. And they insisted that the London editors had no power to exclude anything sent from foreign countries. In the meantime, the *Zoological Record*, which formerly covered the same ground as one of the annual volumes of the *Inter-*

national Catalogue, was getting into difficulties. Although it appeared much more punctually, and in the opinion of zoologists was more efficient, libraries which received free copies of the Catalogue through their governments could not afford to subscribe to the *Record*, and the annual deficit became more than the Zoological Society was prepared to face. After much negotiation a compromise was reached by which the zoological volume was edited by the committee of the *Zoological Record* and appeared with two title pages, one in series with the *International Catalogue* and one with the *Zoological Record*. The difficulties with the Germans increased with regard both to the changes we made and our drastic excision of German matter. Reluctantly Armstrong acquiesced in our disregard of German protests. What might have happened at a quinquennial conference, I do not know, but the War came before any final breach had come about.

My last visit to Germany before the War was made from Christmas 1913 to early in January 1914. My colleague, E. G. Boulenger, and I visited Hamburg, Berlin, Leipzig, Munich, Dresden and other zoological gardens, and as usual we received cordial welcomes. It was our custom to go round the gardens privately, taking with us each a small block of paper on which we made notes and rough sketches, tearing off each leaf as it was full and putting it in a separate pocket. Afterwards, when we called on the director, we knew exactly what additional information we wished. As it was winter, our visit began as early as possible in the morning, and in the late afternoon or evening we travelled to the next town. It was my rule to write up the notes on one garden before visiting the next. And so in the train we pulled slip after slip out of our pockets, compared and discussed them, after which I pinned together the slips on kindred subjects, and placed them in a leather portfolio, to be ready for final writing out at night. I thought at the time we were being

noticed with rather more than natural curiosity by our fellow passengers. But one afternoon, I think on the express from Berlin to Frankfurt, one of the passengers went out to the corridor, and before long was replaced by a grey-faced elderly man who sat down beside me, another passenger making way for him, and presently entered into conversation with me in good English, and after polite exchanges was excessively curious as to who we were, what we had been seeing, and what the notes were, about which we were taking so much trouble. Of course I told him who we were, thinking nothing about it, and I have no reason to be sure that it was anything but inquisitiveness.

As I wished to get information as to fauna preservation in the German African colonies, Sir Chauncey Cartwright of the Foreign Office had given me an introduction to our ambassador. Sir Edward Goschen was most kind, arranged an interview and asked me to come back afterwards to luncheon. At the German Foreign Office I was received with the coldest civility, but given a promise, afterwards fulfilled, that a complete set of their regulations for shooting licences and so forth would be sent to me in London. Then I was taken, I think, to von Kiderlen-Waechter, who was charming. He chatted at length about the big game of Africa and about the weight-limit for the sale of elephants' tusks, but was then interrupted by telephone, gave me a cigar and begged me to make myself at home as he might be away for a few minutes. The few minutes became many, and I was attracted by a big wall map coloured in a way I did not understand. I crossed to look at it, and found that it was a map of the United States of America, hand-coloured, as was explained in a marginal note, to represent the density of the German population there. Not long afterwards an official came in bringing a polite message from von Kiderlen-Waechter, begging me to excuse him, as he would be detained for the rest of the morning.

At luncheon, Sir Edward Goschen was jovial, and, finding that I knew Chauncey Cartwright well, told me he would have something to show me after coffee. He took me to the embassy state reception-rooms, dragged settees into the light, made me examine the tapestries and the curtains, and then said, 'Now you tell Cartwright'—then in charge of the establishments of the Foreign Office abroad—'that you have seen with your eyes the disgraceful shabbiness of the embassy, and that he must do something about it.' For the moment, at least, our ambassador was not expecting a break with Germany.

Chapter VII

Chiefly France
1893-1903

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There may be others besides myself who have failed to get food or stimulus from German literature, except so far as it was technical. In my younger days I knew German as a spoken language far better than I have ever known French or Spanish, and I was reading it so constantly that, not being troubled with meaning, I could pay an unconscious attention to style. I pushed against disinclination in a fashion that I have done with no other literature. I began a habit that has pleased me with Russian (at Oxford I was the first pupil of Morfil, the first Reader in Russian to the University), French and Spanish; I learned short poems by heart, and when I was completely attuned to their rhythm and assonances, tried to translate them, as first-finger exercises and not in the hope of success. I read poets, novelists, essayists. I made a brave effort with Goethe, for a reason probably unfamiliar to those who place him with Shakespeare and Cervantes: he was an early advocate of Oken's theory that the vertebrate skull consists of modified vertebrae! But even Goethe said nothing to me. His crude technique and rhetorical philosophy only bored me. Three exceptions I found, Heine, Nietzsche, to whose German text I went back after reading him in translation, and Weininger, the mad genius who died by his own hand at the age of twenty-three and whose book, *Sex and Character*, I translated for Heinemann in 1906. During the War, and for some time after it, I read much German polemical literature, by

politicians, publicists and professors, and tried the more successful post-War novels, but they have failed to reach either my emotions or my intelligence.

My reactions to German literature I note neither with an oblique pride nor in apology. Simply they happened. They were amazingly different from the results of my recent introduction to Spanish literature. The gentle beauty of the Marqués de Santillana, the solemn splendour of Jorge Manrique (smothered in Longfellow's feather-pillow of words), the old Moorish ballads fragrant like Jacobite songs, the serene charm of Fray Luis de León, all these at least four centuries old, and recent modern writers like Pérez de Ayala, Valle-Inclán, Ricardo León and Pio Baroja, all brought a new source of intellectual excitement and emotional pleasure. And even more surprising and exhilarating was my first contact with Ramón Sender, artist and psychologist, interpreter of the spirit of the revolution to the blind old civilisations. But what I am concerned with now is the effect of two foreign forces on those of us who were growing to maturity in the eighties and nineties. I am speaking not of students of literature, who doubtless took foreign authors in their stride, but of those who, engaged in other pursuits, received them as impacts on life rather than on letters.

First there was Russian literature. Gogol and Dostoievsky, I think, appealed chiefly to the appetite for something exotic, but at least they opened our minds to an interpretation of life divorced from all the familiar standards. The *Kreutzer Sonata* and *The Death of Ivan Ilyitch* (Metchnikoff told me later that the story was based on the death of his own brother) were perhaps of the same order. But *Anna Karénina*, *Resurrection* and beyond all *War and Peace* had an influence on us far beyond that of entrancing stories of a new kind. Tolstoy introduced us to a philosophy of life, sweeter, richer and more compassionately objective than

any of us had imagined. He took us far out of the complacent insularity of British ideas. I read Tolstoy first in an indifferent French translation, but in 1890 I got Nathan Dole's English translations, which I have re-read nearly annually ever since.

The second great influence on us was French literature. My first introduction was a lucky find of a batch of cheap American translations on an Aberdeen bookstall, but at Oxford I began to read French itself systematically, beginning with Balzac and the classical dramatists, and ranging through the amazing gamut of French grace and gaiety, irony and laughter, and I do not think that there has since been any week in my life in which I have not let a French book, new or old, pour its dissolving sunlight on my native stolidity. I do not propose to make a catalogue of the trim-sailed ships of French literature, but to recall something of the impact made on our minds by those writers who, in neglect of technical literary classification, should be called the great French humanists. I take them in any order. Zola got his first public reputation in England because he was supposed to be a writer of indecent books, and because a London magistrate gave his verdict against them, and it was not until many years afterwards, when his indignant protest ('J'Accuse', in *L'Aurore*) had revealed to England his magnificent courage, that the English public began to realise his passionate idealism. But to those of us who were not dismayed by Zola's determination to avoid the older type of romanticism, which liked sins only in scented sheets, the Rougon-Macquart series came as a magnificent attempt to make a synthesis of life, not as it might be imagined, but as it was. It was an epic of the Third Empire, of the squalid intrigues on which it was founded, the foetid, hothouse splendour of its efflorescence and its swift decay. And it was based on a study as close as Charles Booth's contributors gave to *Labour and Life in London*. I remember re-reading

La Conquête de Plassans in Aix-en-Provence and finding the topography as careful and as easy to follow as that of Flaubert in *Madame Bovary*. The life of the shops, of the markets, of the mines, of the railways, of finance and of the theatre as it reacted on the leading characters, all of whom were supposed to be the progeny of two mingled strains, was at once a description and a criticism of society. Zola himself said that the novel was life seen through a temperament. His was a temperament in which angry humanism was the emotion driving him through the long labour of the attempt to attain scientific realism.

It used to be said on the advertisements that Gaboriau was the 'favourite reading of Prince Bismarck'. Anatole France, although it was not said in advertisements, was the favourite reading of Campbell-Bannerman, the wise and tolerant statesman who saved the British Empire by giving freedom to South Africa. George Bernard Shaw had not then brought the word 'bloody' into polite society, and perhaps the absence of crude words in the original or in the translations of France made it easier for British readers to tolerate him, or more likely it was because he was an admitted scholar. But certainly there was no fear that the presence of a book of Anatole France on the table laid its owner open to the suspicion that he was a devotee of the obscene. It was even respectable to admire him, and at least on a gentler type of mind the works of the laughing ironist had a moulding influence. Zola scourged into us the imbecilities and monstrosities of civilisation; Anatole France had an even greater influence because he made us understand them and smile at them.

But possibly Octave Mirbeau was the greatest brain and the most burning force, although except for one novel which had a success of scandal, and one or two plays, he was little known in England except to a few of us who thought that we thought. Even the late John Murray, taking a

hurried glance in 1915 at the revised proofs of a little book he was about to publish for me, corrected 'Mirbeau' to 'Mirabeau', and was amazed and peeved when I reproached him. I had read *Le Journal d'une Femme de Chambre*, and not knowing that Mirbeau had been educated for the priesthood and had therefore studied sexual pathology as a doctor studies general pathology, came to the conclusion that the author had thought it good business to pillage Ploss and Krafft-Ebing for the vagaries of sexuality, when I found that Anatole France had inscribed to Octave Mirbeau one of the most dainty of his short stories. 'I've got him all wrong,' I said to myself, 'Anatole France never inscribed that to the writer of *Le Journal d'une Femme de Chambre*.' And so I got everything he had written and found that I was in contact with a burning flame of wrath against the cruelties of the world. Were I a rich anarchist, impatient of the fashion in which the progress of humanism is bogged by blind complacency and interested opposition, I should use Mirbeau as intellectual dynamite to blow all forms of orthodoxy into the air. And I found that there were others who felt with me, a few in England, many in France. But let me quote a voice which may be heard. Here is a rough translation from a tribute paid by Maeterlinck which I find amongst my press cuttings of 1913:

In Memoriam

Figaro, 25.2.1917

'Love of justice! It was the unbridled passion of his life. It possessed him like a demon uncontrollable; it ravaged him like an incurable and glorious disease. Justice did not come to him haltingly after a sedulous discussion of pros and cons; he did not love it with prudence, coldly, as love may be given to a fragile and difficult conception; it broke out from him like a geyser, in hot steams of anger, of indignation and of sarcasm, or, like a pillar of fire, in a whirling

cloud of generosity and goodness; when iniquity reared its head in any part of the world, we all looked for his white flame shining through the night.'

Another great writer said of him that his love and pity for humanity were so great that his pity became aggression, but he made himself counsel for the prosecution only that he might defend humanity better.

But Mirbeau was also a lover of art. Speaking of painters he wrote:

'Their friendship is at once a joy and a gain. I have learned much from them, even in matters of my own trade. They have opened for me a spiritual world to which, but for them, I was blind. They have been reasons for the pleasure I have in living, more valid, more healthy and more lofty. From my heart I say that they have added a new conscience to my conscience.' He was the first to proclaim the genius of Vincent van Gogh, whose canvases he had discovered in Père Tanguy's shop. He was a friend of Claude Monet and he was the prophet of the Impressionist School, of Renoir, Pissarro and Sisley, and one of those who helped to put Cézanne and Rodin on their pinnacles. There are few things more pleasing in literature, and there were few that opened our eyes wider than his account of Claude Monet's discovery, in the middle of the nineteenth century, of Japanese art. He introduces it (*La* 628-*E*8, 1908) by the reflection:

'Description of the influences which have caused the historical evolution of thought is the more difficult because the pendulum swing of ideas, simple to understand, is often altered by some purely material accident. . . .

'Claude Monet, coming to Holland to paint, when he was unwrapping a parcel found the first Japanese print which he had ever seen. You can guess his emotion before this marvellous art, then unknown to him as to all the western

world, an art in which life, movement and form were revealed in a line. His astonishment, his joy were such that they could be voiced only by bubbling cries:

'"Oh! Oh! Good Lord! Good Lord!"

'And off he rushed to the little shop in Zaandam from which the parcel had come.

'A dull little grocer's shop in which the fat fingers of a fat man were wrapping up—without being paralysed—a penn'orth of pepper, or a half-pound of coffee, in those glorious images brought from the Far East in some cargo of spices. Although he was still a poor man, Monet had resolved to buy all these masterpieces that the shop held. He saw them in a pile on the counter. His heart missed a beat. And when he saw the grocer, he was serving an old woman, and taking off a sheet from the pile. He bounded:

'"No! No!" he cried, "I'll buy that, I'll buy all these!"

'The grocer was a good sort. He thought that he had to do with an eccentric. Besides, these pieces of coloured paper had cost him nothing; they had been thrown in with something else.

'And so, as if it were to pacify a crying child, he laughed, and with an air of gentle mockery, he gave Monet the whole heap.

'"Take them! Take them!" he cried. "You are very welcome to them. They are worth nothing. Besides, the paper is bad. I like this other better."

'And turning to his client:

'"And I don't suppose you care either?"

'"Me? What does it matter to me?"

'And so he wrapped up in a piece of brown paper the slice of cheese the old woman had bought.

'Back in his house, crazy with joy, Monet examined the prints. Amongst the most lovely, the finest studies, which then he didn't know to be by Utamaro and Hokusai, of women at their toilet or in their bath, of seas, of birds, of

flowering trees, there was one of a herd of deer which seemed to him the most marvellous example of this marvellous art. He knew, later on, that the artist was Korin. . . .

'That was the beginning of a famous collection, but above all of such a development of French painting in the nineteenth century that the story has an historic value. Those who wish to study seriously the development of French art which has been called "Impressionism" must not forget it.

'Nowadays when so many anniversaries are celebrated, useless or foolish, ought we not to celebrate with real ceremony the anniversary of that happy and fertile day when, at Zaandam, a French artist saw for the first time a little Japanese print?'

Zola, Anatole France, Mirbeau, each in his own fashion, brought something new, something so to say more grown up, into our British conceptions of humanism. They are now out of fashion as thinkers. Just as after the Napoleonic wars the humanism of the upper classes became tinged with a benevolent and futile mysticism, so after the Great War humanism amongst the educated classes has become a sterile sentiment, speaking against but voting with the holding classes. It may be that Zola's ruthless exposures, France's corroding irony and Mirbeau's flame of anger failed, inasmuch as they were directed against the failures of a bourgeoise civilisation without insisting or imagining that the remedy must come in the economic field. But they were great iconoclasts, and those who 'burn old falsehood bare' at least clear the ground for young growth.

But so far as I am concerned, France itself had a larger part in my life than came from French ideas. From 1893 until the War, all my holidays were spent in France. These were days of enchantment. The cost of a first-class return from London to Paris was thirty-nine shillings and sixpence at Easter, Whitsuntide and Christmas. Contact with the

English had not yet ruined French cooking. Except in the international hotels of the big towns, there was always at luncheon, and sometimes at dinner, an abundant meal of savoury dishes, usually with a local distinctness. In Normandy and Brittany, huge oysters to be dipped in a saucer of white vinegar and raw onions, *boudin* and pigs' trotters; in Poitou and Limousin, fresh *pâtés* of goose and duck; along the west coast, grilled sardines and frogs' legs, or delectable days when in front of each chair a huge pin was stuck in the tablecloth to extract winkles from their shells; in Languedoc and Provence, bouillabaisse, cockscomb pies, and *cassoulet de Castelnaudary* dished from a cauldron in which beans, onions and garlic, pieces of chicken and meat had been simmering for a century, always being replenished, never emptied; all through central France, jugged hare, partridge stewed with cabbage, fresh cream cheese eaten with sugar, wild strawberries and *kirsch*. Everywhere for those with timid palates, great platters of spiced cold meats, omelettes, and vegetables cooked in butter. Almost in every town a cheese with its own flavour, some to be eaten as food, others to play their part in the perfect finish of a perfect meal, 'fruit ripened in paradise, cheese rotted in hell.' And always at luncheon and dinner a free supply of wine, white wine, fragrant and refreshing, red wine, earthy and comforting, or cider, or milk. And on the pavement of the café, afterwards, coffee in a cup or a glass (why is coffee in a glass called a 'mazagran' in the north?) and served with a *fine* or Calvados, or a *marc de Bourgogne*, more fiery than vodka. Much later, in the days of cocktails, being challenged by an expert to name a mixture he did not know, I said that my favourite was a 'depth charge'; it baffled him, as was not surprising, for I invented it at the moment; fortunately it could not be tried, as two of the ingredients were not present; it was supposed to consist of equal parts of *marc de Bourgogne*, white

vodka and gin. Is this too long a digression on food and drink? Let it be remembered that these were not luxuries for the rich, but part of the common fare in modest inns, and to be compared with the English cabbage cooked in water, hard potatoes and cuts from a greasy joint. And also that there came to the table-d'hôte the humbler commercial traveller, assistants from the local shops, mechanics in their overalls, and peasants in their blouses from the local market. France, at least apart from the slums in the big towns, smiled with content, and we used to say that if it were to be a habit anywhere to praise God for being alive when one got up in the morning, there would be a larger percentage of the people in France than in any other country in a mood for such thanksgiving.

But in addition to quick visits to Paris and a week or so every year at Easter, Whitsun or Christmas, I had about four weeks in late summer or early autumn, annually until the War, until 1904 on an ordinary bicycle, afterwards by motor car. I had a large wall map of France on which I used to mark in red ink the roads on which I had been, until I came to plan a holiday rather in order to be able to place a red network in a new place, than for any reason of sightseeing. But it had the advantage of taking me to many lovely places which I should have missed, and bringing me into closer contact with the local populations in villages. And I had two objects, one borrowed, the other of my own initiative. My friend the late Sir Chauncey Cartwright also spent his holidays cycling in provincial France, and was collecting materials for a history of *bastides*. These curious fortified towns, always rectangular, with a large central square, usually colonnaded, and sometimes with the remains of town walls and entrance gates, had been built by abbeys or nobles in thinly inhabited districts to serve as posts of defence and centres of population. The only authorities Cartwright knew were Ménault, *Les Villes Neuves*,

leur origine et leur influence dans la mouvement communal (Paris, 1868), and Curie-Seimbres, *Essai sur les villes fondées dans le sud-ouest de la France sous le nom de bastides* (Toulouse, 1880), and these gave examples rather than catalogues. We each searched for anything that might have been a *bastide* and exchanged information. We were specially fortunate, not in south-west France, but in the remoter parts of the Cevennes, where also we saw remains of the villages and gateways of the Knights Templars.

I had always been attracted by the two sets of factors which interplay in shaping living organisms, the inherited qualities and the moulding forces of the environment. Spencer Blackett, then the manager of Kegan Paul, Trench, Trübner and Co., for whom I sometimes read scientific manuscripts, had sent me Ripley's *The Races of Europe*, which he afterwards published. It discussed at length with regard to human beings the inherited or racial factors, and the forces of the environment in their widest sense, from physical conditions to education. He explained, with innumerable portraits and diagrams, what he took to be the three leading components of the modern European populations: the tall, fair, long-headed Nordics, the stocky round-headed Alpines, and the dark, long-headed Mediterraneans. He described how the inherited racial characters were most evident in remote villages, and amongst the peasant women of these, who were less mobile than the males. He believed that the three racial types were specially distinct in France: Nordics in the north, but extending far into the centre up the river valleys and along the coasts; the Mediterraneans in the south, but also coming far up the river valleys; the Alpines, an intruding wedge based on the Alps, still occupying high ground in the centre or elevated land rising high from the plains like the Morvan or Limousin. And so village by village I used to watch for distinctive racial characters, and had no need to be bored anywhere.

To-day, when purity of race has again become a political idea and is proclaimed in Germany with the enthusiasm of a new doctrine, it is odd to recall the similar discussions of half a century ago. Ripley (*The Races of Europe*, 1900) tells the story. Soon after the Franco-Prussian War, de Quatrefages, the French anthropologist, advanced the theory that the dominant people in Germany were not Teutons, as Nordics were then called, but were directly descended from the Finns. We know now that de Quatrefages was wrong in detail, for the Finns are chiefly long-headed 'Nordics', but, on the other hand, a very large part of the population of Germany is round-headed, Alpine, a vigorous intrusion from the east and south. But according to de Quatrefages the Prussians were alien to Germany, barbarians ruling only by the sword.

It was a pleasant unguent for the smarting French. Virchow of Berlin set to work to disprove the theory which damned the dominant people of the empire, and the controversy, political under the mask of science, raged for years. It had an odd sequel.

The German Government was authorised to institute an official census of the colour of hair and eyes of the six million school children of the empire. That established beyond question the differences in pigmentation between the north and the south of Germany and showed the similarity of blondness in all the peoples along the Baltic. The Hanoverians were as Nordic as the Prussians. On the other hand, the Prussian Army was forbidden to make anthropological investigations on its annual crops of adult recruits, whether for political reasons or no is not known. In 1917, Mr. Madison Grant of New York made a similar attempt to establish the supposed supremacy of the Nordic race over all the other components of the population of the United States. But the conception of racial superiority is not only much older than the present Nazi regime. It goes

behind Houston Stewart Chamberlain, Virchow and de Quatrefages to Nietzsche. Nietzsche, so far as I have been able to trace, was the first to combine a hatred of Jew and Slav and Christianity into the figure of a superman, racially a blond German. But Nietzsche confessedly borrowed his idea from a Frenchman, the Comte de Gobineau, the first edition of whose *Essai sur l'inégalité des races humaines* was published in three volumes from 1853 to 1855, oddly enough dedicated to the King of Hanover. As for the superstition of an Aryan origin of certain favoured peoples, it came first from Prichard's proof of the Aryan affinities of the Celtic language, was popularised by Max Müller, and although transferred to race from speech never had a scientific justification apart from philology. In actual fact the three supposed European races and their various mixtures differ neither in natural capacity nor in their responses to the historical, cultural and political influences which mould people of different stocks into nations.

In the early days, bicycling in France had pleasures now lost for ever. There was little traffic on highroads, and on the by-roads and lanes it was usually possible to pick a smooth way. True, there were long stretches, sometimes on the highroads, nearly always through the villages, paved with blocks so rough that it was difficult to ride or even to walk over them. But these were incidents, and the only real trouble was in the remoter country where savage dogs, fierce as wolves, leapt up and tried to tear the rider off the cycle. It was after a whole day of such attacks, in the Vendée, that I invented a pleasant dream. A cyclist pedalling alongside a Russian lake was pursued by wolves. Nearer and nearer came the howls; remembering stories of his youth, the cyclist threw to them first his rubber bath (we always carried these), then his knapsack, then his hat, and was just about to abandon all hope, when in the far distance he saw a cloud of dust, plainly the welcome approach of

other travellers. He made an even more desperate effort to keep in front of the pack, and then saw that he was about to be met by another cyclist, closely pursued by another pack of wolves!

Motoring, in its early days, except for trouble with tyres, sparking plugs and gears that slipped, and the distance between adequate repairers, was much pleasanter than now, and had the added sense of adventure. In one way it required more care. Children in the villages, horses and their drivers appeared to be stricken with a stupefying terror at our noisy approach, and were it possible for them to do the wrong thing, or to hesitate too long between several things, swift trouble came. Of the perils of the road in descending order we used to make a list. Easily worst were cyclists being overtaken, who with loud shouts would often flounder off their machines, leaving them in the road. Driven horses and mules came next; then sheep and oxen, then pigs, who had some sense, then fowls and chickens, and if they escaped alive it was luck, due neither to their dexterity nor to the skill of the motorist. But geese were perfect. I never heard of a motorist who had killed a goose. They would watch the approach, choose their time, waddle resolutely across the road in perfect formation, and then line up on the far side and hiss at us as we passed. A tale of a dog is worth repeating. We were hurrying through a long straggling village somewhere near Toulouse, hoping to make the next town in time for luncheon. Every house seemed shut up against the midday heat. A huge yellow dog leapt at the car, now on this side, now on the other, now in front, but always being baffled by my twists, until, almost at the last house, the car hit it and sent it rolling into the gutter, where it howled as only a hurt dog can howl. Looking back, it seemed to us that the whole population had come into the street, gesticulating. It was the dog's fault; the processes of French law are slow; the road was clear in

front. Some atavistic sense overcame prudence. I stopped the car and got out. The dog had turned over on its back, still twitching, but certainly dead. Some breathless villagers came running up.

'Where is the gentleman going?'

'Straight on to Lavaur; isn't that the road?'

'Yes! Yes! But the gentleman must turn to the right here, and after two kilometres he can get back to the road.'

'But why?'

'You will meet the mayor; he comes back now to his luncheon. It is his dog you have killed.'

'But surely I must wait and tell him I was sorry and offer to pay something.'

'Name of God! Hurry. It is the mayor's dog. He will be very angry, and we are all glad you have killed it!'

And so I did hurry, taking the by-road as advised.

Now for some random memories, from provincial France.

In bicycling days we seldom failed to spend at least a week at Les Sables-d'Olonne, on the coast of the Vendée. On the north a long pier separated the bay from the canalised river which led to the fishing harbour, jetties and market. Up and down the river the tunny boats passed with sails of scarlet, orange and blue, more like decorations on the stage than the agents of a prosperous trade. From the pier an esplanade curved southwards, separating a stretch of yellow sand from a curve of hotels and restaurants, shops and lodging houses, with their fronts to the sea and their backs to the harbour. On Sundays the theatrical effect was heightened by the native women, coquettish and graceful. Up and down they walked, straight as water carriers, but trim in the tightest of stays. Lace caps fitted closely over a little row of curls on their foreheads and fell in long streamers behind. Their low-cut bodices were trimmed with the gayest of silks, and their short skirts revealed, from the

knee to the dainty enamelled sabots, shapely calves in tight silk stockings. They would have made the fortune of any ballet, and they strutted about in serene knowledge of their own perfection. We tried to select our week to include the Sunday in August when it was low tide in the early afternoon.

When the tide had reached its farthest ebb, between two and three o'clock, an oval racecourse was marked out with flags, and was surrounded by a crowd of spectators. The centre was a reserved enclosure; it contained a stand for the judges, a ring for bookmakers, a gigantic weighing-in machine, and the spectators who chose to pay. The swathed horses were led through the crowd. The esplanade was lined with tiers of seats, and the balconies of the hotels formed a higher tier. A band played opposite the winning post, and above it from the balcony of the clergyhouse a row of black-robed priests smiled bland approval. High above them the great black crucifix of the town scarred the glowing sky. From round the end of the pier, fishing boats raced to form a double row along the seaward side of the course. A long programme had to be gone through in the time the tide allowed. The yellow ring shone clear for a moment, whilst the colours raced round it; a surging mass of figures ran in to see the weighing; a bell sounded, and again the colours circled round the ring, for nearly two hours a revolving kaleidoscope, until the blue sea began to eat into the oval.

There was only one trouble about Les Sables-d'Olonne, doubtless dispelled by modern sanitary science. As you entered the town, large posters everywhere announced, 'Remède contre la Sablaise'. The *sablaise* did not seem to trouble the natives, but it descended on visitors with swift devastation. One evening after dinner, I left my party over coffee and brandy in the garden. We were going to the casino and I had left my money upstairs. After half an hour

a search party found me, white and sweating, in an immovable knot, fully dressed, on my bed. I was lucky; an ambulatory and trying night, a limp day on port and dry biscuits, and then recovery. For a bad case, a hypodermic of morphia was the effective treatment.

Ray Lankester came once to Sables-d'Olonne with us, debonair, and in his best holiday mood. He enjoyed everything. We sat on the pier in the moonlight watching the fishing boats; we visited the fishmarket, where he handled every strange fish and gave us a psychological lecture on the power of inhibition as we watched a marketing nun telling her beads whilst a live eel was being skinned and notched for her. We bathed twice a day. But his delight in nature bubbled over when we visited the salt pans. At the edge of the sea stood white pyramids of drying salt, and alongside them flat pools of sea water, pools with their flat bottoms white with salt, and pools with only an inch of concentrated brine over the thick deposit of salt. In some of these were numbers of the red-brown brine shrimps which have the amazing capacity of living in concentrated brine. Unless they are cannibal, like the fly which lives in American petrol pools, it is difficult to know on what they can feed. Lankester and I slipped and splashed in the brine until we captured a number which with great difficulty we got to London alive, in a bait tin. We did not know then that their eggs are sometimes to be found in Tidman's sea salt, and that by keeping a strong solution of that at a warm temperature they can be reared in London. We had more difficulty in catching a creature which was strange to us. It looked like a large leech floundering in the brine, an impossible habitat for a soft-skinned worm, but it turned out to be the larva of a large fly.

But Lankester was not always in amiable mood. One morning after our swim we went to a barber's shop, and were seated alongside facing a large mirror whilst the

attendants did their work on our heads. I don't know if Ray's hair had been tweaked, but suddenly he burst into a furious storm against his barber, who stood upright, not knowing what to do. I caught the barber's eye in the mirror and gave a propitiatory wink, as if to say, 'It is all right, it is only the gentleman's little way!' And at the moment of winking I saw also Lankester's face staring malignantly at me in the mirror. But nothing happened. The storm subsided; we walked back peaceably to the hotel and had our vermouth in the garden without any reference to the episode.

After a severe illness in London, I was advised to go to Contrexéville, in the Vosges. The course, which I followed strictly, was rigorous. A few minutes before six in the morning the patients went to the springs in the park, where the treatment lasted from six until eight: a glass of water, every quarter of an hour, a third of a pint at each drink for the first week, rising to a pint (eight pints in two hours!) about the end of the first week, and gradually falling to the original third at the end of the third and last week. At eight you went to a bathhouse where a vigorous stream of water was played on you from a nozzle, searching all the tender parts of your body back and front, and by the action of a double tap rising and falling from nearly boiling to icy cold. Then hot towels and an exhausted rest. Then shaving and dressing and a very dull time until ten o'clock, the first meal of the day. It was abundant—fish and eggs, vegetables, an occasional dish of white meat, and fruit. White wine with water as you pleased, but no red wine, no coffee, no brandy. After breakfast, replete and happy, a deck chair under the trees, sleeping and reading. From soon after midday until six, when they served the only other meal of the day, a repetition of the first meal, patients could follow their own pleasure. After dinner there was a band, a small casino, cards or reading, and at nine o'clock bed was wel-

come. But the course suited me; although I had to be helped from the cab to the train at Charing Cross, and again in Paris, I was able after a week to cycle and walk through the great forests.

It was near the end of the season, and there were few British visitors. The great Lord Salisbury was there and also Henry Labouchere, but they kept to their private rooms most of the day, appearing in the park only rather late in the morning. They walked round and round, in opposite directions, Lord Salisbury, grey, heavy and with a rolling gait, Labouchere, small, erect and walking with quick, dainty steps. Naturally they were subjected to discreet observation. It was noticed that they passed each other as strangers, but one morning supplied the gossip of a day, because Labouchere was observed to stop in front of Lord Salisbury, say something, and then turn and walk round with him for one circuit, after which the great man turned off by a side path to his private quarters. It was reported amongst the French that neither of the two kept to the course strictly, Salisbury being alleged to take three meat meals a day, and Labouchere to have a valet-chef with him.

Most of the visitors were Russians of good class or provincial French. At the time the Fashoda trouble was at its height, and although the French newspapers were blustering against England, the French at Contrexéville were full of civility and friendliness to the English visitors. One little group was formed, a French schoolmaster, a local landowner, who taught us strange rules in friendly games of poker, one or two Frenchmen whom we could not place, and a Russian and his sister, who supplied us with cigarettes which came from St. Petersburg twice weekly. After we had all exchanged detailed information as to the onset and nature of the illness which had brought us to Contrexéville, in most cases gravel, or stone, we became intimate friends,

as people thrown closely together under the same discipline usually do. We made joint excursions to points of view in the forest, to Épinal where we bought wooden images and a simple kind of guitar, to Domrémy-la-Pucelle, the village of Ste. Jeanne d'Arc, and to a lake from which golden carp leapt out to simple tackle. We talked on all sorts of subjects and there was no trace of anything but a longing for international friendship. The contrast between the opinions of ordinary people and those who took their daily prejudices from the Press was great even in those days. Thinking of it, I recall a remark W. T. Stead made to me much later at a peace congress in New York: 'The greatest step towards peace would be to hang the editors of all the newspapers.' Now he would have to add the proprietors.

In my last week our circle was joined by a young Jesuit priest from Farm Street. He had read zoology under Milnes Marshall at Manchester, and soon we became intimate. Zola's *Lourdes* had appeared recently and one day the talk fell on miracles. Suddenly I said: 'But as you believe in miracles, why do you waste the money of your Order coming here? Why don't you go to Lourdes?' The circle grinned at him. He replied at once with the friendliest of smiles. 'I must tell you a strange thing. In the whole history of our Order, no miracle has ever been wrought for any of us. It seems as if we have to take all the kicks and expect none of the halfpennies.'

Chapter VIII

London: Early Days
1894-1903

★

I have been a Londoner for a great part of my life, in fact from January 1894 until May 1935. The climate of Oxford is the chief defect of the University, except possibly for those who play outdoor games or take walks regularly. The climate of London is one of its many advantages, especially for those who like me have never allowed regular open-air exercise, whether as games, which I detest, or as digging, cutting trees and other forms of manual labour, which I like, to become a daily necessity. Open-air exercise, like drink and tobacco, is one of the pleasures of life, and even occasional bouts of excess may shake the body out of a temporary lethargy and, when the reaction is over, restore the inclination to work. We are all like animals. A tortoise, a pet of mine, sometimes could not be induced to feed, even when placed in a patch of young clover on a sunny lawn. But if you put it on its back, slightly pressed in, it struggled and kicked for a few minutes in the effort to turn the right side up, and when it succeeded, all the obstinacy was forgotten and it began to crop the sweet clover heads. At Oxford I was seldom completely well, and often had two or three days of some kind of fever. At that time it was the habit, if there were no ascertained specific cause for recurrent fevers, to take something out. Teeth which sometimes ached I had made the dentist remove. Overtures for an exploratory examination of my appendix I resisted, and they then decided that my tonsils which, like those of many people, were rather large, must be removed. True, they did

not make much of a business of it, as in the modern enucleation operation. The surgeon gave me a preparation to paint on my throat which had the effect of keeping me from choking and so making things less difficult for him. He came at nine in the morning, guillotined them off one after the other in a few seconds, but forgot his promise to drop one of them into a preserving fluid I had prepared, as I wished to cut sections for microscopical examination. After a few hours on the sofa, sucking ice, I was quite well except for a slight difficulty in swallowing, and next day I was at work as usual. However, if it did no harm, it made no difference to my little attacks of fever, and just before leaving Oxford I had a serious attack of influenza. I had promised Arthur Waugh to write an article on Tyndall for the January number of the *New Review*, but I had to write it on my wedding day.

During my long years in London, I have had only two illnesses, neither of which had any relation to the London climate. The first was a severe renal colic, mistaken for several days for influenza, until my nurse coming into the room found me crouching in my dressing-gown over a chair, unable to move or speak. For several years afterwards I never spent a night from home without carrying a syringe and morphia in case I should be caught out again, but never used it. The illness had one good result. In my early days in London, it was routine in a club to order a whisky and soda whatever time of day it might be, and equally routine to have a whisky and soda before going to bed, or two or three, if one were working late, or if there were friends. I am speaking not of those who notoriously drank too much, but of the ordinary working literary and scientific people with whom I mixed. After my course at Contrexéville, I stopped that, and for years passed as abstemious. The two habits that have changed most in my time have been eating and drinking. The daily domestic joint and

the gargantuan courses at dinner parties and public banquets of Victorian days were beginning to disappear before the War. Those who are curious should consult Professor Saintsbury's *Cellar Book*. Similarly, the consumption of alcohol has decreased so much that I, not having changed since I dropped whisky, seem bibulous amongst younger men. But I have no wish to moralise.

The best drinking story I know is about the reporters sent by a temperance newspaper to interview a teetotaller of ninety. As they were getting details from him as to how he had signed the pledge when a baby, had never tasted alcohol, and attributed his long life to his abstinence, a terrific noise was heard above.

'What is that?' asked the reporters.

'Oh! that is only my older brother. He always breaks up the furniture when he is drunk.'

My second illness was typhoid fever. At the time I was living high up in a block of mansions over Baker Street Station, and I remember that Dr. Stephen Mackenzie, brother of Sir Morell, then physician at the London Hospital, came to my bedside and had to sit down to recover his breath as, the lift being out of order, he had had to toil up on foot. Owen Lankester, brother of Ray, the kindest and most genial of men, saw me through the illness which was long and severe. But we had one dispute. He prescribed a dose of brandy for me every two or three hours. I told him that when I was ill brandy was a poison to me, which was certainly true, and asked for hot China tea in its place. He refused, and I was too ill to argue. But by day I was usually able to dispose of it, and at night my night nurse, a sensible woman with a taste for brandy, obliged. When I was convalescent, Owen, on one of his cheery visits, put his hand on my shoulder and said:

'You will soon be stronger than ever now; you see how wise you were to listen to me about the brandy!'

I never told him, partly not to hurt his feelings, and still more not to get the nurse into trouble.

One other thing I remember about that illness. The Underground Railway was not electrified, and every few minutes by day and by night the block of flats shook and rattled. By day there was a continuous roar from the streets, rather worse at night, because it was intermittent. Throughout the week the only quiet hours were between three and five on Sunday mornings.

London was a good place for workers, even although there were disadvantages which have disappeared so gradually that it is difficult to recall how great are our modern comforts. There was the question of transport. Certainly it was gay to drive with a lady in a hansom on a fine day, with the window up and a clear view ahead; hansoms might have been designed for flirtation. But when it was wet even the windows did not keep out the rain, and slippery streets were dangerous. I suppose everyone of my generation has been shot out more than once, when, if nothing worse happened, the tenacious brown mixture of horsedung and mud with which the streets were covered made oneself and one's garments filthy. Hansoms would carry only the smallest amount of baggage, and four-wheelers were dingy and almost always reeked of drugs as if the last occupants had been hospital patients. Four-wheelers were the occasion of a dismal trade. When one of them left a railway station with baggage on its roof, it was accompanied by a runner who followed it through the streets, arriving with it even at a few miles' distance, a panting scarecrow, begging to carry the trunk from the cab into the house. The two-horse buses were incredibly slow; from Charing Cross to Maida Vale they used to take more than an hour and a half. If one had luck with a pirate bus (these were buses not belonging to one or two big companies) it was better, for once nearly full it rattled through the traffic at what seemed a great rate.

But the 'pirates' had no regular times, and although the conductor would almost pull you on board, saying that he was about to start, in fact he waited until a sufficient number of passengers had been enticed. Worst of all was the Underground, the carriages and the tunnels by night and by day thick with a fog of sulphureous fumes.

Lighting was bad beyond belief. There was no electric light, and even gas was poor in quality and badly employed. When I came to London first, candles and lamps were in daily use. Candlesticks stood on the hall table, one for each occupant, to give light on the way to the bedroom; candles on every dining-table had to have their shades pulled down from time to time during the meal, and it was the duty of the last person who left the table to extinguish them. Oil lamps were good, but they required endless attention in cleaning and trimming. Then Welsbach burners came into use, and were improved quickly, and gas came into its own, partly for lighting and partly for heating. The domestic uses of electricity came very slowly. An essay might be written on how the naturally conservative instincts of the British people have been encouraged by the slow transition from older methods to the domestic uses of electricity. Here in Spain, where I am writing, there has been a swift leap from the candle-dip to electricity. The old methods still survive in cooking; from six to seven in the evening, women still carry iron dishes into the street in front of their houses and fan burning wood into glowing charcoal for the evening meal. But even in hovels patched with flattened petrol tins there are electric lighting, electric curling-tongs and electric flat-irons!

London mornings were the worst, almost invariably foggy and cold; for central heating, except possibly in the houses of the rich, was unknown, and coal fires took long in giving comfort. Except when it was necessary to go out for a morning lecture, I found myself rising later and later,

until two small changes came. The first was the invention of the safety razor, now so easy and inevitable that it is difficult to remember the discomfort of dull blades which one had forgotten to get 'set'. The other was the continental habit of being satisfied with hot coffee and a crust as the morning meal. My maternal grandfather, as often was quoted to me in reproach, was accustomed to say that it was impossible to have any confidence in a man who could not eat a hearty breakfast, and one at least of his cronies was accustomed to begin Sundays with toasted cheese and bottled beer. But I always shied at breakfast until I learned to jump out of bed straight to hot coffee and rolls. Getting up became a pleasure, and for the greater part of my working life, whatever time I went to bed, I have had breakfast at seven in the morning.

It was useful to prolong the days, as living was more expensive than in Oxford and my regular income was minute; also because I wished to be able to spend some time at the Savile Club, then in Piccadilly, to which I had been elected in 1894, a few months after coming to London. The election was then by committee and there were two requisites. It was necessary to have a proposer well known in the club, and three or four supporters of standing whether they were regular users of the club or not. But it was equally necessary for an unknown person to be brought to the club to dinner on a Sunday night, and after dinner be introduced to H. J. Hood, the autocratic honorary secretary. I got through these hoops, and the Savile became not only one of the most pleasant things in my life, but also the most useful. Sunday nights were the great events. It was before the time of the week-end habit, and restaurants were little used by literary and scientific people. On Sunday evenings servants at home were unwilling to cook a meal; the ladies appeared to entertain each other with cold supper, and the men dined at the club. In the Savile there were two long

dining tables, always full, and it was a practice, not a nominal custom, for even the youngest members to drop in wherever there was a vacant seat, and to talk and be talked to on the freest terms. There were poets, historians, critics, lawyers, doctors, architects, members of the Civil Service and men of science, and leader-writers (for in those days there were a number of independent London dailies, *The Times*, the *Morning Post*, the *Daily News*, the *Telegraph*, the *Standard* and the *Daily Chronicle*, all supporting one or two leader-writers, generally of academic and always of literary distinction).

The only exception to completely free mingling was on Saturdays, when one table and an inner smoking-room were reserved by tacit consent for a group with the staff of the *Saturday Review* as its nucleus. After two or three years I was made free of it. The central figures were Walter Pollock, the editor, Saintsbury, Walter Besant, Herbert Stephen and Edmund Gosse; but Thomas Hardy, Rider Haggard, Ray Lankester, Charles Baxter (the lawyer in *The Wrong Box*), Stevenson's cousin R. H. M. S., Egerton Castle and many other late Victorian figures were frequent visitors. There was one day when, an early member of the group having failed to come before one o'clock to hold the fort, some daring iconoclast or thruster established himself at the table; presently the usual group, headed by Pollock and Gosse, crossed the room, stood surveying the table for perhaps half a minute whilst there was hushed silence, then wheeled about, and occupied another table. When the *Saturday Review* changed hands on the death of an owner who preferred good writing and Tory politics to dividends, the *Saturday* table persisted with much the same group, except that Walter Pollock came less frequently, and Edmund Gosse assumed control.

In my first year in London the lectureship in biology at the London Hospital Medical College became vacant and

I obtained the post, having to give up Charing Cross Hospital, as the two could not be held together. I was sorry to leave, chiefly because of two people. F. W. Mott, afterwards celebrated for his researches on the physical pathology of mental diseases, allowed me to use part of his laboratory, and impressed me as one of the ablest men I have ever met. Mitchell Bruce, senior physician at the hospital and chairman of the medical school, an old Aberdeen man who was a friend of Minto, befriended me in every way, both at the hospital and for many years afterwards. His specialism was the heart, but he was one of the great all-round physicians of his time. Talking to me about diet once, he told me that amongst his patients there were often wealthy old ladies whose only trouble was overeating.

'How did you deal with them?'

'I used to say, "Now, my dear lady, what you require is keeping up. I should like you to have a pint of warm milk about an hour before lunch and before dinner every day."

'You see,' he added, 'an elderly person doesn't get any nourishment to count out of a pint of hot milk, but it completely spoils the appetite for dinner.'

At the London Hospital, there were soon new friends. One of the first and best was Henry Percy Dean, junior staff surgeon, whom I had met as a colleague on an examining board. He was a brilliant surgeon quickly rising to the height of a great practice, and without any sense of humour. When he made a new acquaintance and really liked him, it was his custom, on saying good-bye, to add:

'And remember, if at any time you have to have any serious operation, it will be a great pleasure to me to do it for you.' A later surgical friend, equally skilled at his craft, but with a sense of humour, puts things a little differently. After an exchange of chaff, his final retort is:

'But just you wait until I get you on the operating table!'

Dean bought a house in Harley Street, furnished it with old furniture, on which he was an expert, and married a lovely wife. But the lady and her first child died within a year, and Dean, who had occasionally used hypodermics when he was overworked, began to abuse them, gave up his practice, retired and did not live long. Lord Dawson of Penn came on the junior staff from another hospital—a most attractive young man, more brilliantly groomed and garbed than was the custom at the London Hospital, but already full of the charm of manner which has served him and his patients well. Henry Head also came on the staff from outside about the same time. He was a great talker, brilliant and excitable. In addition to the scientific work which before long gained for him one of the foremost places in the history of neurology, he was deeply interested in literature. He and his intimate friend Walter Raleigh were working out a division of poetry and of emotional prose into a type in which the exciting images were visual, and a rarer type in which the images were out of focus and the physical background a complex of touch, sound and scent. I pleased him by suggesting that Mallarmé's *L'Après-midi d'un Faune*, which he did not know before, was a typical example of his second division. But he displeased me by a curious piece of puritanism. He had a copy of Louÿs' *Chansons de Bilitis*, and he had censored it by pasting together, or by blacking out, the pages of which he did not approve. Head told me for the first time a story about Walter Raleigh which always makes me laugh. When he landed at New York on a lecturing trip, he was to be met at the quay by his host's son, a young man to whom he had been described as a very tall, very English-looking person. As the passengers trailed off the ship, the young man went up to someone who he thought filled the bill:

'Are you Walter Raleigh, sir?'

'No,' said the passenger, without a moment's hesitation,

and in a strong American accent, 'I am Christopher Columbus.'

Henry Head and I used the same barber. One day he came round to me in a fury, producing a very shabby hat with my initials in it, and saying:

'You must have stolen my hat from the barber's, and I had to go to a consultation in this,' holding out mine with a disgusted air.

'I am terribly sorry; I had noticed the hat wasn't mine, and was wondering what to do. But it must have been you sitting next me in the barber's shop. I thought it was someone I knew, but you were so muffled up in towels that I couldn't see. You remember, you were saying to the barber that your hair was getting thin on the top and couldn't he do something about it?'

'Nonsense; I never said anything of the kind.'

Arthur Keith (now Sir Arthur) and Leonard Hill (now Sir Leonard), two of my colleagues at the London Hospital, have changed very little during the forty years I have enjoyed their friendship. Keith, recently returned from the Far East, whither he had gone partly on account of health, had the same spare figure, the same partly mellowed Northern accent and the same cameo-like features, almost as striking as those of Burdon-Sanderson. There are two types of Scot; the dour, cautious, reserved man who deliquesces only at a Burns' Night dinner; and the emotional, enthusiastic type, open-hearted, with no trace of guile. Keith was a diagram of the latter, the *ingenium perfervidum Scotorum* agitating his slender body, and it was only when you knew him well that you discovered the resolute scientific purpose under his exuberance. Leonard Hill, then as now, was upright, high-coloured, sanguine, an artist and an experimental physiologist. It was the time when medical science was just becoming conscious of blood pressure as an index to health. Hill, who delighted in devising appara-

tus out of homely materials, had rigged up a contrivance by which a piece of flexible rubber-tubing was strapped round the arm, and inflated with a bicycle pump until the pressure in the tube balanced the pressure of the blood, the pressure being read off on a manometer scale. Among the students there happened to be one who was practically a giant and another, practically a dwarf. Hill lured them into the laboratory and took readings of their pressure in different positions, as part of his endeavour to arrive at what might be regarded as a normal range. Incidentally he took mine, and told me with surprise that it seemed to be abnormally high. If at that time it had been possible to follow up the inferences, the kidney trouble from which I suffered later might have been diagnosed in time. Oddly enough both Keith and Hill had delicate lungs. Keith kept his disability at bay more by will power than by any treatment, but has never looked a healthy man, and his life, passed in dissecting-rooms and museums, would seem to have been unsuitable. Hill, on the other hand, has always looked a picture of health, and is at least a personal testimony in favour of his doctrine of cold fresh air. He has always refused to wear wraps or to muffle up, has taken sun baths or open-air baths, summer and winter, on the roof of a London house, and such time as he has been able to spare from science has been given to painting out of doors.

The work at the London Hospital Medical College took more time than at Charing Cross, as there were far more students, and in addition to a large elementary class for the conjoint board examinations there was a small class for the more serious Preliminary Scientific of London University. The elementary class kept up the old tradition of rowdiness and always put a new lecturer to the test. When I turned round to make diagrams on the blackboard, pandemonium broke out. I swung round; the noise stopped for a moment and I said:

'If you think I care a twopenny damn whether there is a row in the class or not, you are wrong. I shall go on for the hour whether you are listening or not. But if those of you who wish to pass care to throw out the others, I shall watch the fun with pleasure!'

There was a round of cheers and thereafter all was well.

The men reading for the Preliminary Scientific were different. From the first they were keen and anxious to get on. At Christmas I gave them a trial examination on the lines of the London University paper, covering the part of the subjects which we had gone over. The result was a blow. Only one might have scraped through. Early next term I gave another trial paper, but to their surprise told them they might use their notebooks and textbooks. The result was a little better, but still far below a reasonable standard, and no index to their knowledge and intelligence. I spent some time scrutinising their papers and found the trouble. They had no idea how to tackle an examination paper in which marks had to be gained within a limited period of time. And so I told them to spend the first few minutes going through the examination paper and begin with those questions which seemed most easy to them. They would have finished these long before time was up, and could proceed, confident that they had already gained enough marks to pass, and so unflurried, to deal with those they found difficult. And then, with each individually, I went through one of the old London examination papers, and discussed with him in what order and why he would deal with them. Every year I made that method a part of the class routine, and was able to predict successfully those who would certainly pass; and sometimes the doubtful ones had more success than their knowledge quite deserved. This preparation may be a matter of routine amongst those who have been taught to teach, but it was new to me and new to my pupils.

There was much overlapping in the teaching of biology

and zoology in London, especially for medical students. At University College there was teaching of the highest university type, and at King's College there were efficient laboratories and professors. But each of these institutions was also connected with a hospital, and it was often the case that medical students preferred, or the managers of hospitals insisted, that they should not go outside the hospitals at which they were going to do their medical work. At the Royal College of Science, Howes, Huxley's assistant and successor, was engaged chiefly with students who were going to be teachers. In addition to University and King's College Hospitals, nine great general hospitals in London tried to give full teaching in biology, chemistry and physics to their students during their first year. The result was inefficient laboratory accommodation, and part-time lecturers insufficiently paid and sometimes not specialists.

Some accidental vacancies seemed to provide opportunity for amalgamation. I discussed the matter with my colleagues at the London, Bart's, Guy's and St. Thomas's medical schools, and we agreed that if no new appointments were made, it would be possible to amalgamate the teaching of elementary science for all the students of the four hospitals, and to provide salaries for the necessary number of full-time lecturers. I went to Sir Lauder Brunton, then senior physician at St. Bartholomew's, as the weightiest of the persons with whom to deal. He was enthusiastic about the scheme and invited representatives of the other hospitals to dinner, to discuss details with me. The dinner was sumptuous and I remember that, when the fruit came, Brunton pressed pineapple on us, saying that fresh pineapple was the best digestive after rich food. Over the port, Brunton explained the scheme, and urged that the existing arrangements not only did not secure the best teaching but wasted hospital accommodation and money. Agreement seemed to be secured, but the plan broke down,

on account, Brunton told me, of the wish of the hospital authorities that their institutions should each be entirely self-contained.

I had two long periods of examining for the conjoint board and one for the University of London, where Ray Lankester was my colleague. The conjoint board examination in biology was entirely viva voce. Two pairs of examiners sat at tables in a large room, each pair taking one candidate every quarter of an hour, from four till seven and from eight until ten. At each table the examiners asked questions and marked the answers in turn. The examinations used to last for five days in succession and were rather exhausting, but brought most useful fees. Either Dean or Sir John Rose Bradford was my usual colleague, and I remember no single occasion when we had any difference of opinion as to whether a candidate had passed or failed. The London examinations were more serious, as in addition to a long practical examination there were two three-hour papers from each candidate. There were often hundreds of papers and, as the candidates came from all parts of England and all kinds of teaching, it was not easy to satisfy oneself with one's verdict. After a trial the easiest and surest way was to take the same question all through the papers before turning to another question.

There was no convenient textbook for elementary biology for the conjoint board work and in my first year I wrote one. This brought me in contact with H. G. Wells for the first time, who had also written an Elementary Biology for the London Correspondence College, an institution at which he was then teaching. Wells wrote a savage and what seemed to me a misleading review of my book in an educational journal, and in the young pride of offended authorship I went to see him about it. He was then (1894) living in rooms in Mornington Crescent. He was the same plump, cheery, self-confident man that he remains. We had

an amiable chat over our differences of opinion, the more easy because he told me that Harry Cust had just accepted a first article for the *Pall Mall Gazette*, an account of his own divorce case! Nearly two years afterwards I 'got back at him' by a long notice of *The Island of Doctor Moreau*, in the *Saturday Review*, in which amongst other comments I attacked the scientific basis of the story. This was followed by an acid exchange of letters in the *Saturday*. Since then, in the many years in which we have known each other, we have been good friends, and, like the rest of the world, I am indebted to him for many hours of excellent reading. Later on, when I got to know Arnold Bennett—for whose gifts I have the greatest admiration—I was always touched by the completely generous and almost humble respect he had for 'H. G.' as a writer and thinker, and by his view that whilst he himself was a 'reporter', Wells was a fountain of prophetic wisdom.

The London Hospital and examining did not supply a living wage, and apart from writing, about which I shall say something later, for nine years after I went to London I lectured regularly under the London University extension system. No expenses were paid, but each course consisted of twelve lectures at the rate of £3 a lecture. I usually had two or three courses a week in the spring and autumn sessions, and occasionally one in the summer session. Those in the suburbs were trying, as they required long journeys by rail and bus, and the evening meal had to be at six or at ten. But Morley College, where I gave three courses a year for three years in succession, was a 'plum', and the audience there was of a very high intelligence. Still it was a hand-to-mouth existence from the financial side. But I was slowly finding my feet. The research work I was able to do was being published regularly by the Zoological Society. I was on several boards of the University of London; at one of these we had to make recommendations with respect to the

entrance examination; I suggested that the time had come to get rid of Latin and substitute modern languages; the only support came from Sir William Ramsay, the chemist, at that time famous for his work with Rayleigh in separating the new element, argon, from the nitrogen in the air.

Weldon, Lankester's successor at University College, became an intimate friend; Adam Sedgwick, still tutor at Trinity College, I saw much of, and frequently spent a week-end at Cambridge with him. Bateson had published (1894) his *Materials for the Study of Variation*, in which he presented for the first time a great body of evidence which suggested that variations of large magnitude played a chief part in the separation of species. Weldon was an adherent of the view that variations so small as to be almost insignificant could be accumulated by natural selection, and already this difference of opinion was becoming almost a personal antagonism. Neither was conciliatory, and when a few years later the rediscovery of Mendelism opened a new and almost revolutionary view of the processes of inheritance and the nature of variation, the quarrel between Bateson and Weldon rivalled the battles between ecclesiastics of the Middle Ages. Soon after I became Secretary of the Zoological Society, I asked Bateson to open a discussion at one of the evening scientific meetings, and arranged that Weldon should reply, and that there should then be a general discussion. The meeting began at 8.30; we got through the formal business in a few minutes, and then Bateson opened. He was a magnificent speaker, full of his subject, and we were all enthralled. Probably, however, Bateson had noticed Weldon sitting restlessly on a front bench and hardly restraining his impatience. The chairman was weak, and Bateson went on talking until after ten, when many of those present began to leave to catch their suburban trains or buses. Weldon was furious, and the meeting closed without a debate.

I was also seeing much of Lankester, on his frequent visits to London, and my less frequent visits to Oxford. One afternoon the London evening papers put out flaring posters, 'Arrest of an Oxford Professor in Piccadilly: Police Court Proceedings.' Lankester was then just under fifty, red-faced, heavily built, and in his dress and mien much more like a man about town than an Oxford professor. He had dined at the Savile Club, spent an hour or two in the smoking-room, and on leaving the club walked up Piccadilly on the left-hand pavement towards the Circus. He was completely sober; in fact Lankester was abstemious, and it was subsequently proved in court by club waiters and by two or three members of blameless integrity that he had had nothing but half a bottle of claret at dinner, and a whisky and soda in the course of the evening. In those days the Piccadilly pavement every evening was thronged with ladies plying their trade, and a rather rowdy crowd of men. There is no doubt but that the women were blackmailed by the police, and that those who did not pay for the freedom of the pavement might be roughly handled. Lankester came on a hustle of men in the middle of which two policemen were twisting the arms of a screaming woman. He pushed in, told the officers that they must stop maltreating their victim. They told him, at first good-naturedly as he was well dressed and it was no part of their routine to interfere with the pleasures of gentlemen, to mind his own business. Lankester, whose indignation was always passionate at any form of cruelty to women or children, became violent in his language, and I think most probably also in his action. Anyhow, the officers let go the woman and hustled the professor off to Vine Street, where he was charged with being intoxicated and interfering with the police in the discharge of their duty. Had he been a wise man, or really a man about town, he would have apologised, given a false name and deposited a couple of

pounds as his own bail. Next morning when the case was called, there would have been no appearance, and as nothing very unusual had happened, from the police point of view, the bail would have been escheated, and that would have been the end. But it was not the Lankester way. He gave his brother Owen's address, and Owen in a great state of perturbation arrived, bailed him out, and took him home.

Next morning, again in the Lankester way, there was a gathering of the clans, and the worst possible mess was made. George Lewis was sent for, and in all probability not told how simple the matter really was. In any case, when the proceedings began, the magistrate must have had a bad initial impression, as George Lewis was by far the most distinguished solicitor of the time in difficult cases, and his mere appearance in a police court suggested that there was a good deal to be got over. With George Lewis was Forbes Lankester, a Queen's Counsel, who at once began to bully the magistrate. In the end the actual evidence was in Ray's favour, but the magistrate, instead of dismissing the case, bound Ray over to 'keep the peace', and many of his friends and all his enemies got the impression that he had been extricated rather cleverly from a very unfortunate, possibly disgraceful, scrape.

Lankester's Savile Club friends, whatever they may have thought of the wisdom of the police court proceedings, were as devoted to him as ever, and in May 1897 I was asked to arrange a club dinner to him on his fiftieth birthday. The dining-room held only a limited number and I incurred a good deal of odium by having to refuse tickets to some members. It happened that Rudyard Kipling, who did not come to the club very often, had not heard of the dinner, and by accident came into the house in the middle of the few speeches that had been arranged. The head waiter told me of this and I at once brought him into the

room. Without any notice, he made much the best speech of the evening, full of humour and of affection and respect for the guest. He began by saying:

'As I was coming down to the club, I saw that there was an unusual number of policemen about. I noticed an old friend and asked him what trouble was expected.'

'Why, sir, there is a dinner on down at the Savile Club to a man called Lankester; we know all about him.'

'But Lankester is a friend of mine, and I am going to the Savile Club.'

'Don't you do it, sir. You go home quietly; we don't want you to get mixed up in any trouble.'

In 1898, on the retirement of Sir William Flower, Director of the Natural History Museum, Ray Lankester wished to be a candidate for the post. There was no doubt as to his being the most distinguished naturalist in Great Britain, or as to his wide sympathies with every kind of natural history work, in botany, in zoology and in paleontology. At Oxford he had paid attention to museum technique and brought there one or two skilled assistants who had done much to enhance the scientific value of the collections. Flower, and his predecessor Sir Richard Owen, had made the Natural History Museum, once little more than a collection of rare specimens, famous amongst the great museums of the world. But already, in 1897, it was rumoured that a naturalist was not to be appointed. Technically the Natural History Museum at South Kensington was a subordinate branch of the British Museum in Bloomsbury. Maunde Thompson, Principal Librarian, an efficient and dominating personality, wished to regard the Natural History Museum merely as one of the departments under his control, and the standing committee of the trustees which looked after South Kensington contained very few naturalists and was entirely under his influence. It was proposed to appoint, in succession to Flower, the Keeper of

Mineralogy, Lazarus Fletcher, who was distinguished in his own subject, but little known outside it. Weldon and I made ourselves into a private committee and got promise of support from the majority of naturalists outside the museum. In course of time the standing committee let it be known that they had appointed Fletcher. We redoubled our efforts, and Lankester offered himself for the post. Although the standing committee had supposed their decision to be final, it was possible to appeal to the three principal trustees, the Speaker of the House of Commons, the Lord Chancellor and the Archbishop of Canterbury. That course was adopted, and Lankester was duly appointed, but entered on a legacy of trouble. He had to work with a committee which had been overruled, and although he did excellent work at the museum he was in constant disagreement with Maunde Thompson and the others, a disagreement which he did nothing to dissolve by conciliation.

In 1899 Alleyne Nicholson, the Professor of Natural History in the University of Aberdeen, died, and I became a candidate for the post. I had better qualifications than any other Aberdeen graduate, and was very strongly supported by English zoologists, and on going to Aberdeen I was well received by the professors there. My friends and I thought it a settled thing, and I was looking forward to the end of financial worries and to having leisure for research.

The Chair was in the gift of the Crown, although as usual in such cases the decision really rested with the Secretary of State for Scotland, then Lord Balfour of Burleigh. He asked me to come to see him and after my visit I thought all was well. But a few days later a note came from him to the effect that he thought it 'due to me, before the appointment was publicly announced, to let me know that after all he had been unable to send my name to the King for the Chair'. The successful candidate, my friend Arthur Thomson, made an excellent professor, probably much better

than I should have done, but it was a disappointment at the time. Ray Lankester went to Balfour of Burleigh to find out what had been the hitch, but could extract nothing.

Two years later the Principalship of Cardiff was advertised as vacant. I asked Isambard Owen (afterwards Sir Isambard), a physician at St. George's Hospital and a club friend, who was a member of the electing body, if it were worth while applying or if the post would certainly go to a native of Wales. He assured me that it would be a completely open election, urged me to be a candidate and gave me introductions to the other electors on whom he advised me to call. Again I got excellent testimonials, went to Cardiff and paid the necessary calls. Soon it was announced that a short list of three had been made, E. H. Griffiths, a Welshman and Cambridge tutor who had done important work on the mechanical equivalent of heat, Percy Mathieson of New College, and myself. The Cardiff newspapers wrote to us for our photographs, and we went back to Cardiff for a final interview. Griffiths was elected. Afterwards Mathieson and I compared notes, and found that we had received the same advice and help from Owen. I reproached Owen, but he said of course there was no doubt from the beginning that Griffiths would be elected, but that it was necessary to 'make a field' for him.

Meantime in London I had become a member of the Council of the Zoological Society, and towards the end of 1902 when the secretary, P. L. Sclater, announced that he was going to retire at the end of the year, the president, the Duke of Bedford, thought that a Committee of the Council should be appointed to enquire into all the affairs of the society and make recommendations. I was made a member of that committee.

Chapter IX

More about France
1904-1916

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For years we passed about a fortnight in early autumn in Hérault, Gard and Bouches-du-Rhône. We soon had enough of Avignon with its walls spoiled by restoration almost as badly as those of Carcassonne, with its piercing winds and stifling dust, and of Vaucluse with Petrarch's fountain turned into a tea garden, and at least in autumn with no rushing stream; and of Nîmes, where once the arena, the Roman baths, the lovely Greek temple and the prehistoric great tower were seen, but there remained only noisy streets with restaurants and cafés. But Nîmes was near the Pont du Gard, the most glorious and gloriously placed of the relics of Roman architecture, finer in its proportions and its site even than the Roman aqueduct at Segovia. I became an amateur of aqueducts, ancient and modern, and have always gone to see any within range. The fine modern one at Montpellier was a favourite, but still better the magnificent aqueduct of Roquefavour not far from Aix-en-Provence. It carries the water of the Durance across the valley of the Arc to end in the baroque splendour of the Château d'Eau high above Marseilles. A photograph I took many years ago of the aqueduct of Roquefavour, where it crosses a railway bridge and an old road bridge, is reproduced in the eleventh edition of the *Encyclopaedia Britannica* (Vol. 2, Pl. 2).

But Montpellier and Arles were our favourite centres. If a holiday were rather late in autumn, we went first to Mont-

pellier, and when the rain came we hurried the fifty miles to Arles and found summer again, as the set of the hills directed the south-west winds to the north. There can be no brighter little provincial capital than Montpellier, on a hill eight miles from the sea and a dozen from the foothills of the Cevennes, a town to live in rather than to see. But this is not a guidebook! From the public garden, the Promenade de Peyrou, one looked across a wooded and smiling plain to the white limestone hills, and a day was ill spent when it did not end in a walk to see the sun set beyond their utmost purple rim. To the south four miles of rich market gardens and then suddenly you came out on a plain of pools, changing from brackish to salt as you got near two little fishing ports and bathing stations. But Arles, a huddle of fine old houses threaded by twisting alleys, in the fork between the great stream of the Rhône and its smaller western branch, was even more absorbing in its proud memories of Greece and Rome and the dawn of Christianity. There is now a sumptuous modern hotel, built on the outskirts by the Midi Railway Company, but in those older days there were two inns, each proudly displaying some fragment of the old Roman forum built into its walls. They were in a small square in which stood the statue of Mistral, shaded by plane trees. Through Paris friends I had become interested in the Félibrige with its centre at Montpellier, legitimist and Catholic—the older Félibres, of whom Mistral was leader—and I was an honorary member of the reconciling Félibrists. Mistral, sturdy, brown-bearded and robust, in a black suit and a huge black hat, used to lunch with his friends on Thursdays in the inn at Aigues Mortes, and I made pilgrimages to see him, but as I never recognised any member of the group I was too shy to intrude. Although I was deeply interested by the doctrine of Maurice Barrès in *Les Déracinés* in favour of provincialism instead of the centralisation of Paris, and read *Le Jardin de Bérénice* hoping to

find it pervaded with regional sympathy, it seemed mere literature.

But even more alluring was the great triangle of the Camargue with its apex at Arles and its base on the sea from Port Louis at the mouth of the great Rhône to Les Saintes Maries, near where the embanked lesser Rhône enters the sea. It was then a wild plain more than twenty miles long from its apex to its base, a region of great fresh-water and salt-water lagoons often only a few feet apart, traversed by canals with the bridges that van Gogh painted, and here and there a winding road or footpath scarcely raised above the water level. Then it was a home of wild nature; fortunately, now, when civilisation is creeping down, a great reserve has been formed. From the fortified tower of the church at Les Saintes Maries it was possible to see long white lines of flamingos feeding in the blue lagoons, now and again raising their wings in a flash of crimson. Alongside the little Rhône, European beaver still survived, although their ravages on the embankments made them unwelcome. At the time of the autumn migration, migrants in crowds like black thunderstorms rolled over the landscape. Now and again swarms of dragonflies like locust swarms drifted across for half an hour at a time. Snakes, especially the Aesculapian snake, like a large grass-snake, and the smaller, harmless but very aggressive Montpellier snake, and several species of poisonous snakes, abounded, sometimes crossing the roads, sometimes lurking in the ditches. The natives fished by lowering a geared net, like a large tray, into the water, bringing it up after half an hour or so. In their catches there were often water tortoises. Really weird were the crabs in the shallower muddy pools. A few seconds after you sat down by the edge of one of these, innumerable little heads, only an inch apart, would be pushed up through the mud, and their telescope eyes turned to watch the stranger. A movement of the arm, or a

pebble, sent them all down below, but it was impossible not to think what would happen if by slipping you got bogged in the mud.

In the Roman arena at Arles I saw a bullfight for the first time. Perhaps it was because the spectacle suited the old Roman amphitheatre, perhaps because horses were not used, but I was more interested than revolted, although three out of the six bulls were quite enough for me. Later on at Nîmes, in the Roman arena, and at a modern wooden enclosure at Montpellier, I saw what were advertised as completely Spanish *corridas*. Very likely they were unskilled performances with second-rate bulls and toreadors, but certainly they were not to my taste, and later on when there was a proposal supported by many people I knew well in London, to lend aid to a bullfight at Boulogne, I refused to have anything to do with it. In fact, the French Government refused permission and the matter dropped. Recently, when I came to live in Spain, I decided that I ought to try to understand the national 'sport', for notwithstanding what many English writers have said, it does remain the national sport, still supported by a mass of the population and encouraged by many great and humane national writers. It has not been replaced by 'fut-bol' either seasonally or in popular esteem. And so I read the Spanish authors who have written with full technical knowledge (French literature on bullfighting is romanticised nonsense), and studied Ernest Hemingway's *Death in the Afternoon*, which, whatever one may think of the taste of the author, supplies with its text and photographs an excellent technical guide to the bullring. I have seen several *corridas* which I was told by devotees were first rate; I have seen Belmonte, acknowledged to be still the greatest living toreador and one of the best in history, and I knew enough of the details to distinguish between exploits which displayed knowledge, skill and bravery from the decorative 'stunts'

arranged to give thrills to foreign tourists. Well, even to one without the Spanish tradition, which like the English fox-hunting tradition can do much to inhibit the consciousness of cruelty, there is a good deal to be said in defence or even in praise of the bullring. Its ordered pomp, the splendour of the costumes under a hot sun, the recurrence of statuesque poses of extreme dignity and beauty, the valour of the men, acting singly, or in swift and recklessly unselfish team-work, the overwhelming contagion of crowd consciousness, cannot be denied. And when you can see the horsemanship and the lovely horses of men like Antonio Cañero and José, 'El Algabeño', well, they are sights to remember. As for the wretched horses used to tire the bulls, even now that they are padded, one can only try to remember that a horse with a broken leg will graze peaceably, and that skin stimulations like those of the whip or the spur are more painful (if we can judge of pain by the reactions to it) than disembowelling thrusts.

With regard to the bull itself, there are several considerations. Bulls bred for the ring have several years of free life under conditions far more natural and happier than animals reared for the table. They have no sense of doom when they come to the ring or when they are in the ring. If they are brave bulls, from the beginning to the end they are in a mood of hopeful rage, thinking of nothing except to get the man who is attacking them, and quite often getting him. If we are to interpret by human emotions, who would not rather die in an angry fight than be poleaxed in a backyard in a reek of blood? But, unfortunately, even carefully selected bulls are not all brave and angry, and it is a miserable thing to see a bull that is trying to retreat from the ring to his stable behind, bewildered and goaded by explosive darts. And the last act, when the matador may fail again and again, or succeeding will stand with his hand uplifted whilst a fountain of blood pours from the mouth of the dying

beast, is not attractive. Moreover the whole business of the ring is commercialised to a degree even beyond football in England, and the matadors have to spend a large part of their earnings on expensive display, on supporting their *claque* and even on the Press. There are more reasons than island prejudice for an Englishman to keep away from the bullring.

I never thought it fit to waste a summer holiday in Monte Carlo, and indeed I have passed several summer weeks within easy reach of it, and have visited the museum and aquarium at Monaco without crossing to Monte Carlo. That recalls a story of an English visitor who got into trouble with the authorities of the principality. The police called on him at the Hôtel de Paris and explained the situation:

'You are allowed twelve hours to get across the frontier.'

'I understand; but ten minutes will be enough.'

Christmas was the best time for Monte. Autumn lingered long and the days were brilliant with sun until, on some morning early in January, you woke up to see a grey sky, a mist over the hills, and it was time to go. Living could be cheap. At one of the lesser hotels a room with central heating, a writing table and a private bath, with full pension, cost a little less than ten shillings a day. All the long sunlit hours we walked, taking the tram or the train east or west, or the chain railway up the hill for a starting point, lunching at a wayside inn, and coming back at dusk for a bath, change and tea. About six was a convenient time to go to the casino, to wait until the tables began to thin and a seat could be got for an hour or two hours' gambling before dinner. One evening on the steps of the casino I met my college tutor coming out. He was the kindest of men, but as a tutor he had a gift of grim irony. His face was a picture of melancholy. One does not often have a chance of chaffing one's tutor, even after leaving Oxford.

'You look rather down on your luck, sir; have you lost everything?'

He gripped my arm.

'Mitchell, are you irregular even in reading *The Times*? I have just lost my wife.'

There are people who are born gamblers and a few of these have won fortunes at the tables, but most lose. I was one of the great prudent majority out of whom the bank makes its steady income. I used to divide the total sum I was prepared to lose by the number of days of my stay, and take into the rooms no more than the day's limit. So far, in its small way, that suited the bank, for more often than not the limit was soon reached. But I had another habit less convenient for the bank. If things went well, I gradually raised my stakes, so playing against the bank with the bank's money. One afternoon things had been going very well indeed and, with a great pile beside me, I was staking at each throw over ten pounds on each of the three even chances, red or black, odds or evens, above or below eighteen. In the evening Edmund Gosse and Sir Felix Semon called on me. It seems they had been watching me, although I was too absorbed to have seen them. They came to give me a friendly warning. It was a terrible thing to see a young man with my prospects playing far beyond my means; did I not understand that luck always turned and that I was on the straight path to ruin and possibly suicide? I explained that each of the stakes represented five francs of my own money and the remainder the bank's. Gosse remained shocked; Semon burst into laughter and began a long discussion on 'systems'. He agreed, of course, that playing on the even chances gave the bank the least advantage and that raising your stakes slowly as you won, and reducing them slowly when luck was against you, was prudent. But then came the difficult theoretical point, to which neither of us knew the answer. The past cannot bind the

present. If it be an even chance whether red or black turn up at any throw, then, supposing that red has come up say twenty times in succession (we understood that a run of 24 on one colour was the 'record' at Monte Carlo), the chances of red or black remained scientifically even, but no gambler would believe that, and no experience support it. And as an empirical fact, supposing one were to wait until a very long run had occurred, and then begin to play against it, doubling the stake at each loss, it was incredible that a win would not come before the limit of the bank for a single stake had been reached. The practical objection was that these long runs are very infrequent.

In 1902, when I was recovering from a very severe illness, I went for a long week-end to Ostend with William Heinemann. The law had been changed recently, and the public were not admitted to the gambling rooms, which had been turned, at least theoretically, into a club. Victor Bethell, then the representative of Smith's Bank at Ostend, had arranged to have us proposed and elected. On the first evening, he passed us in, the three of us resplendent in white ties and white waistcoats. I was tired with the journey, and after watching William playing, Bethell standing behind and advising (Bethell was a miracle at games of chance), I strolled out into one of the corridors to smoke. A gorgeous lackey came up and asked me, very politely, to follow him. I followed along several corridors, rather alarmed lest, not being a member, trouble was awaiting me. We reached a gilded chamber where a still more resplendent and polite official apologised and explained that a ballot for candidates was in progress; a certain number of votes was necessary, and seeing that the gentleman was disengaged, possibly he might oblige by putting a ball in the urn.

'Certainly,' I said, 'it is no trouble, but I am a formal person and think that I should see the list of candidates.'

I was shown it, and there, among the first few names,

were Heinemann's and my own. I had pleasure in voting.

Next afternoon I had an amusing experience. A lady sitting next to me, and I, both reached out to claim the same winning stake. I believed it was mine; she was sure it was hers. I said that possibly madame might agree to put the stake and the winnings on any chance she selected for our joint benefit. The lady agreed with a smile. The stake won, and she suggested that we should continue to play together. The afternoon was fortunate in a reasonable way, and we shared the spoils and parted with much amiability. In the evening Bethell said to me: 'You are a quick worker; do you know with whom you were playing?'

'No; but she wasn't English and her French was worse than mine.'

'La belle Otero.'

Certainly I didn't know. I had seen La belle Otero years before when, as a lovely young woman, her Spanish dancing was a season's rage in London. She had become a full-blown rose.

The last visit I paid to Monte Carlo was not long before the War, when I went to the villa of the late Sir William Ingram to get some birds of paradise he had imported and was to present to the London Zoo. There they were, in small cages in his garage, almost the first I had seen alive. It was not quite a pleasant journey back, for the tin of mealworms burst open during the night, spilling the wriggling grubs all over my sleeping berth. But Sir William did a better thing than present some to the Zoo. He had a large number collected and liberated on the island of Little Tobago, a small, thickly wooded and unpopulated island near Trinidad. The climate and conditions were suitable and, although nothing was heard of them for many years, recently they have been reported as flourishing, and in considerable numbers. Zoologists generally, and especially those of mu-

seums, have an abstract scientific theory against the introduction of living creatures to new habitats, apart from the harm they may do in upsetting the balance of nature. But there is everything to be said in favour of trying to preserve by any means a beautiful species in danger in its natural home.

Fontainebleau was my favourite resort for a short holiday, and I know no place more gently beautiful at any season in the year—in winter when the trees are white and there is a sharp mountain tang in the air; at Easter in its mantle of young green; at Whitsun with its golden broom, the pasque-flowers along the road to Melun, the wild lilies of the valley on the way to Moret, or high summer with water lilies in the 'lake of fairies'. Certainly it was best before the days of charabancs, when holiday crowds came only at holiday times on excursion trains. Best of all was to use a bicycle, for the distances are long for walking, and there is no path which you cannot traverse, sometimes cycling, sometimes pushing and sometimes carrying. With a bicycle every hidden recess could be reached; the ponds where tree frogs bred; the ponds in which the three species of newt could be found, and where, if you kept still enough, you could see them poke their heads through the surface film and emit their little piping note; the pond where edible frogs, generally and with reason almost the shyest of living creatures, would nibble at a finger and allow their backs to be stroked; the pond where an Aesculapian snake had its snug lair and could be lured out and petted. There was one group of trees whose trunks were covered with geckoes, and a tumble of boulders on which, were it hot enough, you always saw adders hunting lizards. And one thundery afternoon we lay for hours beside a hot shallow pond on which grass snakes were racing like torpedo boats after frogs. Twice we were in danger. Once in August, resting under a tree, we were awakened by a droning, rising and falling, like the sound of airships, al-

though there were no airships then. It was a swarm of hornets just above our heads, with a few outlying stragglers questing near us. Another time we had been following a badly marked path when there was a crashing and pattering in the trees above us, twigs raining down, followed by the sound of distant firing. Taking a path and not the well-marked road, we had missed the flags and the sentinel posted to give warning that the butts were near and that rifle practice would continue until four. We took cover, and quickly.

One afternoon I was taking coffee with two London friends in front of a café near the palace gates. They were quite nice people, one a stockbroker, the other a partner in a publishing house, and both what may be called 'men of the world'. A heavy-jowled, large grey-faced man, looking as if his suit were too big for him, shuffled past us and sat down at a table near by. 'Why,' I said, 'that is Oscar Wilde! He must have come here from Paris.'

My friends got up to go.

'You can stay if you like,' they said; 'he is probably here under a false name; the hotel should be warned.' And they went off.

The trial and the two years in prison were over. *The Ballad of Reading Gaol* had been published and Wilde had left England. But still some of the almost gleeful ferocity with which his fall had been received was there. I could not understand it. The sin, at that time at least, had a lure for very few, and to most merely was an unpleasant mania requiring treatment rather than punishment. But probably there was something else. Wilde's character and personality were against the Victorian taste. He had the manners of an advertising charlatan and yet he was a poet, a scholar and a successful playwright. And he was not a 'mixer', but flaunted a kind of insolence. I suppose that if there had been anything abnormal about Whistler, although he was a

very fine gentleman by birth and instincts, he would have been hunted with the same glee.

I went across to Wilde's table, raised my hat and said: 'Mr. Wilde, I don't suppose you remember me, but a long time ago Ion Thynne introduced me to you at the Café Royal.'

He raised his grey face and the thick lips mumbled:

'Ion Thynne. Yes! Isn't he dead?'

'I think so. It is years since I've heard anything of him. Robbie Ross is a friend of mine.'

'Ah! Robbie, with the face of Puck and the heart of an angel. Would you care to sit with me?'

I sat down.

'Of course I remember you. We talked and talked and I asked you how to get rid of the body. I used you in *Dorian Gray*, but I don't think you would be easy to blackmail. Ion! In the days when I made phrases I called Ion "exquisitely corrupt".'

We talked for more than two hours, on crimes and punishments, on the management of gaols in England, on poems and poets, and on science. I wish to record the impression for which I was least prepared. Oscar Wilde was a man of very wide information and interests, and of commanding intelligence. When I got up to go I asked him to dine with us at night.

'No!' he said, 'Your friends would not stand it. I am going back to my little inn where they don't know me. Goodbye; thank you.' I never saw him again.

Paris occupies so large a place in my emotional and intellectual development, in a fashion common to so many of my generation, that I shall content myself with only a few selections from my memories. My first visit was in December 1893, and on Christmas Eve we went to the Folies Bergères. One turn had a ballet, the girls in costumes which would pass for puritanical on the stage of to-day, but which seemed to us, and were intended to be, daring. Suddenly

there was an angry colloquy in the wings and there came on to the stage an elderly gentleman in a black frock coat and silk hat, followed by two *commissaires* with their sashes of office, and an attendant with a basket. The ladies of the ballet lined round the stage, the gentleman surveyed each in turn and then, taking a huge imitation figleaf from the basket, pinned it appropriately on the dress. The gentleman, it seemed, was made up to represent M. Bérenger who had recently succeeded in passing a law for the purification of the stage. The audience screamed its delight as soon as they understood what it was about, but the ladies on the stage and some of those in the audience were embarrassed at that mode of dotting the i's. I think the late Lord Lansdowne would have forgiven me for telling a parallel tale. Lansdowne House was decorated by famous French architects, and the state dining-room had a series of marble statues to support the roof. The house was let for a time to wealthy Americans and, when the family returned, the statues were found each protected by a figleaf. The old innocence was gone, and what the family had never noticed before caused discomfort.

In my early days I had been indoctrinated with the idea that painting was a great and good art, as my mother's people were friends of the Patons and had known Noel and Waller, whose father, a manufacturer and designer of damask linen, lived in Dunfermline. I neglected no opportunity of going to galleries in Germany, in Holland and the annual shows at the Academy, catalogue in hand, trying to learn rather than to feel. But when I began to visit the Louvre and the Luxembourg, and to go to the Salon every year, I lost pride in patter about art, and began to follow my likes and dislikes simply. Fortunately, too, Whistler was working in his studio in Fitzroy Street when I was living in Devonshire Place. Possibly because I was one of the few of his friends whom he did not suspect of waiting to

write his biography, he admitted me to a kind of intimacy. Once I lured him to the National Gallery, and begged him to show me the pictures I ought to admire and to tell me why. 'Ought to admire! There is no ought about pictures. You either like them or don't like them—unless you wish to be a fool of a critic and lose all sense of painting!' Practical Croce; the beauty created by the spectator, not by the artist. But it nearly completed my education, and at least it helped me to pick a happy way through all the moderns, and to be confident when faded old 'masters' said nothing to me. But still I find it difficult to refrain from analysis and am perplexed when, for example, the Picasso who drew the 'Harlequin's Death' also drew the 'Harlequin with a Violin'.

Élie Metchnikoff had come to London, and Ray Lankester had invited a party to meet him at luncheon. It was at the time when the great Russian had been advocating milk curdled by the Bulgarian bacillus as an elixir of life, inasmuch as it arrested putrefaction in the large intestines. After a succulent luncheon with many wines, Lankester proudly produced a dish of milk properly soured, and we all ate of it, in deference to the chief guest. All that Metchnikoff did about it was to say to his host:

'My dear Ray, if you think that a few spoonfuls of this after what you have given us to eat and drink—well, you are wrong.'

Metchnikoff was wholly devoted to his work and ate only the simplest fruits and vegetables, boiled rice and so forth, and never touched alcohol. Without doubt, for those who were willing to follow his simple habits, a meal of soured milk once a day did marvels in the arrest of putrefaction and the auto-intoxication that comes from it. Later on I had the honour of translating his two wonderful books, *The Nature of Man* and *The Prolongation of Life*, books which are still more than worth reading. Metchnikoff asked me to come to see him at the Pasteur Institut as there were two matters

on which he wished some help. Naturally I went. The first matter was soon settled. He wished some further details about the relative lengths and capacities of different parts of the alimentary canal in mammals and their relations to the average duration of life in the respective animals, subjects on which I had been working for long. But he was much more excited about syphilis, on which he had been working in the hope of discovering the living microbe which is the cause of the disease. The day before, he had seen it for the first time. It had escaped observation, not because it is minute like the 'filter passers' of which much has been learned in recent years, but because it is nearly transparent and can be seen under the microscope against a dark background only by side illumination. He showed the microbes to me, a set of silvery, spirally twisted threads wriggling through the fluid in which they were living. But Metchnikoff pursued science not only for its own sake, but to alleviate the miseries of life. There was good treatment for syphilis once it had been acquired. His hope was to find a method of prevention. Although, probably, no scientific man has been inspired by loftier idealism, he was a realist, and knew the uncounted sum of broken lives caused by the disease. He believed himself to have found a preventive. How to prove its efficacy? He had sought the acquaintance of a woman of the town, satisfied himself that she was free from the disease, and had persuaded her to protect herself by his treatment. But the Paris Municipal Council, in the toils of the kind of puritanism which believes that Almighty God has reinforced the moral law by the fear of venereal disease, held that if he had acquired the confidence of such a woman, it was infamous to let her ply her trade, and, having power over the Pasteur Institut, had threatened to take steps against it. Metchnikoff had to abandon what he thought would have proved the crucial experiment. But it had been ascertained that of all known

mammals that could be procured, chimpanzees alone were known to be susceptible to syphilis. He wished information as to how to procure them.

In the early nineties we were staying in a hotel at Nice and nearly made history. There was little traffic even on the Corniche Road, and one morning about noon we swung round a corner on our cycles, feet on the rests, taking full advantage of the slope, and by great luck just managed to avoid crashing into a barouche and pair. In it was seated a grey old lady with an impassive face, who took no notice of the incident. But the coachmen and footman and some people in a following carriage scowled at us in a very ferocious way. It was Queen Victoria.

Sitting opposite us in the hotel dining-room were what we took at first to be a brother and sister, in deep mourning. They were bilingual, and we made friends. They were Countess Gilbert de Voisins and her only son, in mourning for the husband and father who had recently died. Augusto Gilbert de Voisins, a tall and delicate lad who had just finished his course at the University of Aix-en-Provence, was going to devote himself to literature, as it was unnecessary for him to earn his living. His paternal grandmother was Maria Taglioni, the Italian who was the most famous ballerina of the early nineteenth century. Balzac often referred to her in his novels, and Thackeray, in *The Newcomes*, wrote that the young men of that epoch will 'never see anything so graceful as Taglioni in *La Sylphide*'. She married Augusto's grandfather in 1832, and retired from the ballet in 1847. For some time she lived in London and was the chief teacher of deportment, specialising in preparing ladies for presentation at Court. She died at Marseilles in 1884, where she had gone to live with her son, and Augusto remembered his grandmother well. His maternal grandfather was Stephen Ralli, the head of the great firm of Ralli Brothers.

The Gilbert de Voisins settled in Paris but were often in

London or at Brighton, in each of which Stephen Ralli had a house. Augusto became and remained one of my most intimate friends. He has written many novels of distinction, and before the War, notwithstanding his fragile health, travelled through a great part of China on horseback. When the War came, he hurried home by the Siberian railway. He was taken ill on the way, and the train was searched for a doctor. There was one; an Englishman also hurrying back from the Far East, and to Augusto's delight he turned out to be a friend of mine. During the War Augusto was on active service and gained the Croix de Guerre, for 'merit on the field', a high distinction his father had gained in the Franco-Prussian War. Also during the War he married a daughter of the poet Heredia, a most charming lady who had been compelled to divorce Pierre Louÿs, her first husband.

Gilbert de Voisins has been my guide to modern French literature, French and Belgian engravings, and the theatre. Naturally I had been enthralled by Sarah Bernhardt's tense emotionalism and magnificent diction, and by the technical dexterity and slick perfection of French farce. In London the exotic Ibsen plays gave us a sense of being in the movement, if we admired them, a sense much stimulated by the best work of Bernard Shaw, *The Quintessence of Ibsenism* (1891). But the English theatre generally was sacrificed to elaborate scenery, leading ladies and actor-managers. In Paris, Antoine at the Théâtre Libre and afterwards at the Théâtre Antoine had gathered a brilliant company and endeavoured to play to the public and not for the actors, to thrust across the footlights real characters and real emotions, without any insistence on the authors' dexterity in plot and sub-plot or brilliance in quips. The French translation of Hauptmann's *Weavers*, François de Curel's *Le Repas du Lion*, *La Nouvelle Idole* and *La Fille Sauvage*, and the earlier plays of Brieux, as presented by Antoine, were new and not to be forgotten. They were not only 'theatre' in

the most technical sense, but they were arresting statements of living problems of humanity.

It was through Gilbert de Voisins that I came in contact with Pierre Louÿs. After the publication of *Le Roi Pausole*, a review of the book appeared, so far as I remember, in the *Athenaeum*, signed by Miss Betham Edwards, in which amongst other observations the lady described him as a 'lost soul'. Louÿs wrote me a furious letter telling me that in France when an author was criticised in a fashion to which he was entitled to take objection, he could demand with legal right the printing of his reply to occupy the same space in the same journal. If in Philistine England such a law did not exist, would I at least exert myself to see that his defence received proper publicity? I answered telling him not to be a fool; that his admirers in England would only be amused by the criticism, and that if he were to adopt the legal remedy and bring an action for libel, English juries and probably English judges would only be dubious as to whether he ever had had a soul to lose. He was quite contented, or at least decided to take no steps. Later on, during long evening hours of waiting duty at the War Office, I translated and adapted his play *La Femme et le Pantin*, and the Stage Society accepted it for the usual two performances. Louÿs agreed in the faint hope that a theatre would take up the play on the usual commercial lines. This did not happen, although the play went well and got good notices, especially a very friendly one from A. B. Walkley in *The Times*. Louÿs was curious to know what I had done with one scene in 'your hypocritical England'. It was a scene in which the heroine, a Spanish dancer, had been interrupted by her lover bursting in when she was dancing, naked, for the benefit of two rich English tourists. I told him that I had arranged the stage so that a screen hid the dancer from the audience, but that they could see the lewd faces of the English tourists who watched the performance until the

lover burst in and threw down the screen to reveal the lady hurriedly but decently swathed in a towel. Louÿs replied: 'Well, you haven't spoiled my scene, but if you think your way more decent or more moral!'

Sometime afterwards Louÿs wrote to me saying that he was preparing materials for a novel on the Hottentot Venus, supposed to be the first Hottentot woman who had been brought to Europe. She had been exhibited in London, and he understood that the Society for the Protection of Aborigines had interfered, and after a lawsuit had rescued her from her exploiters. Could I get him particulars of the trial? Through friends in Gray's Inn that was easy, and in sending him a copy of the law report of the trial, I wrote:

'As your lady friend is in Paris, a nice photograph would be an addition to your book, and might upset even Parisian morality.'

In his careful large handwriting (he became blind not long afterwards) there came the reply:

'My dear Friend,

'Very many thanks for the trouble you have taken. The notes will help me very much. But what nonsense you write; the Hottentot Venus must have died many years ago.'

'Yes,' I answered, 'but she is preserved in spirit in the largest glass specimen bottle I have ever seen; go to the anatomical museum at the Jardin des Plantes.'

My first visit to Paris during the War was in February 1916. I had been asked to go, accompanied by a colonel, to put a proposal before the French Government. We reached Boulogne about midday; a car driven by a soldier with his rifle propped alongside him hurried us to G.H.Q. After a rapid interview we set off for Paris in pouring rain. My colonel apparently was one of those who forgot about eating and drinking when excited about anything. We had no food at G.H.Q.; it was cold and wet. At Amiens it was dark

and as we slowly threaded our way through the town, I suggested a meal. The colonel was obdurate; we must get on. But the driver, who in private life was a gentleman, chipped in and said that he must have something or he would be unable to go on driving. We had coffee and brandy. At Compiègne we were held up for petrol, but there was no chance of food. Even the colonel began to be hungry, and we discussed the dinner we should order in Paris. When near midnight we reached Paris, all was dark; a changed Paris. But still the Hôtel Crillon was expecting us; we knew it to be one of the best in Paris. But at the Crillon, although our rooms were ready, there was no food; not even bread and cheese, said the melancholy waiter, whose smart livery hardly concealed a wooden leg. I asked to see the *maître d'hôtel*, to whom I explained our plight. No, there was no food. But we must have something. Then the *maître d'hôtel* became human. Something could be done. Presently he returned with a bottle of champagne, a *pâté de foie gras* and the substantial remains of a plum cake. We ate and drank and, more wonderfully, slept after the meal, in complete content.

Next day we fulfilled our mission, seeing amongst others General Galliéni, very worn and frail; a month later he had to resign from the illness which led to his death in May. On the following day we lunched at Amiens and drove into the sound of the guns along a road I knew well in times of peace. Raymond Asquith gave us dinner at G.H.Q.; it was not many weeks before he insisted on returning to the front line, to be killed in action. We motored back to Boulogne in the moonlight and, after hunting from inn to inn, slept in the coldest room with the dampest sheets I have ever shivered in. A different France.

Chapter X

London: The 'Saturday Review' and the 'Britannica' 1896-1910

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Until I became secretary of the Zoological Society in 1903, what I earned from teaching, lecturing and examining was less than a living wage. A substantial part of my small income had to come from scientific and general writing. That had two advantages; it brought me in contact with new people, and as the work could be done in my own time, generally until the small hours of the morning, it left part of the day free for research work in the prosectorium at the Zoo. Journalism was not new to me. In my last year at Aberdeen I was one of the founders of *Alma Mater*, at first a slim octavo, now a substantial quarto, and contributed to it poems, reviews, short essays and notes. In my last year as an undergraduate at Oxford, *Nature* had accepted from me a long critical review on a German book in which Eimer, the first of those who resuscitated the Lamarckian view of the inheritance of acquired characters, out of that and a subsidiary view that variations were not 'chance' but determined in definite directions made an attack on the valency of Darwin's natural selection. It was the introduction to English-speaking biologists of a trend of thought which came to have a wide vogue, and for me personally it had a fortunate result. It attracted the attention of the examiner who was setting the papers for the final honours examinations in zoology, and he set a ques-

tion on it, which was jam for me. Also, before I left Oxford for London, Arthur Smith Woodward (now Sir Arthur), Davies Sherborn, Frank Bather and other members of the staff at the British Museum of Natural History had started *Natural Science*, a monthly magazine intended to be less of a newspaper than *Nature*, and had persuaded me to join as part owner, writer and joint-editor. We never had sufficient capital, never were able to pay either ourselves or our contributors, but we managed to keep it going for several years, and to achieve at least a good reputation and the pride of being proprietors. I don't know how much I wrote for it, or how much time and money I lost on it, but it was good experience. H. G. Wells was one of our appreciative readers.

In 1894 the late Lord Salisbury was President of the British Association at its Oxford meeting, and spoke not so much of what science had done, as of what it had failed to do. I wrote a fable in *Natural Science* on the subject, which had some success, and a few years later when M. Brunetière had been speaking in France about the bankruptcy of science, the editor of *L'Ermitage*, a rather precious little French review of literature and art, asked leave to print a French translation, made by my friend Gilbert de Voisins. I copy it here because *L'Ermitage* has long ceased to exist, and also because the theme against which the fable was directed appears to be rediscovered every few years.

Christophe Colomb

Il est rapporté dans une chronique dénuée de toute véracité qu'après avoir découvert l'Amérique, Colomb revint en Espagne et s'arrangea une retraite de bien être et de dignité. On fit de lui le lion de plusieurs 'seasons', et le grand Révélateur de l'Amérique fut le favori de la cour et l'idole de la populace. On le combla de tous les honneurs, nationaux et civiques, et il devint une puissance dans le pays. Quand le conseil du roi avait à discuter une question d'état, le roi

même réclamait l'avis du grand Révélateur. Quand la foule était houleuse et déchainée, que les meneurs tonnaient contre les chefs légitimes du pays, la voix du Révélateur agissait comme un charme.

Mais un jour, dans un moment d'expansion, Colomb fit la remarque qu'il y avait encore sans doute de nombreuses contrées inexplorées, et que, pour sa part, il se sentait une envie folle de découvrir le Pôle Nord. Ces paroles relevées volèrent de bouche en bouche, mais elles ne provoquèrent que mécontentements. Finalement le roi fit appeler Colomb et lui dit:

'Colomb, nous t'honorons profondément, nous t'avons récompensé, peut-être avec excès, de la découverte de l'Amérique, mais nous croyons pourtant devoir te rappeler que tu n'as pas découvert le Pôle Nord. Il n'y a qu'une seule Amérique, il existe, nous dis-tu, deux Pôles; nous ne voulons pas t'astreindre à la découverte d'un Pôle déterminé, ni des deux à la fois; il existe deux Pôles, découvre-nous l'un de deux.'

Et Colomb rassembla une expédition et partit vers le Nord.

Quand, après des années d'aventures, il revint, n'ayant pas réussi, sa vie se traîna sans honneur ni gloire jusqu'au tombeau, et son nom ne resta plus le nom du grand Révélateur de l'Amérique, mais il devint et demeura celui de l'homme que n'avait pas su découvrir le Pôle Nord.—(*L'Ermitage*, 9ᵉ année—Numéro 10.)

From 1893 onwards I wrote reviews regularly for *Nature*; the pay was small, but it gave me the opportunity of writing technical reviews of the more important new books on zoology. I wrote one or two reviews for the *Academy*, but the review copies of rather valuable books were the only reward, as the *Academy* never paid me. A new venture called the *Review of the Week* engaged me to write a weekly semi-

popular article for which they paid me two pounds—useful pocket-money, as it came regularly until the review ceased. The *Daily Chronicle*, the *Pall Mall Gazette* and the *Hospital* usually accepted articles when I offered them, and sometimes asked for more. They paid much better, but such casual receipts, like many gifts from providence, led to improvidence rather than to security. Later on when Sir Alfred Harmsworth (afterwards Lord Northcliffe) began to issue a weekly literary supplement to the *Daily Mail*, under the editorship of Edmund Gosse, I had well-paid weekly articles, but either the supplement or Gosse's editorship came to a brief end. Similar occasional plums were long articles on Tyndall, Huxley and Pasteur for the *New Review*, of which Arthur Waugh was the actual, if not the nominal, editor. Arthur Waugh is another of my life-long friends for whom the years have done nothing worse than to silver his hairs. By nature a poet (he won the Newdigate in my last year at Oxford), he is the rare combination of a man of letters and a man of business, and has been one of the steady and beneficent forces in the English literature of our time.

Through Waugh I was introduced to W. E. Henley, for whom I wrote occasionally. At that time Henley was living in a house on the river near Barnes and liked to receive his friends on Saturday evenings. The entertainment was tobacco, whisky and talk, and lasted well into the small hours of Sunday morning, and many a long tramp back to London I took, sometimes with a brother of Henley who lived near me in Maida Vale, sometimes to Hyde Park Corner with George Wyndham, a frequent guest and Henley's most welcome friend. It was no wonder that Henley in a dedication called him 'Soldier, Courtier, Scholar'; he had loyalty and courage, a gay lightness of manner and a wide culture. He was then in the full upward swing of his career, and Henley expected him to become one of the great historical figures of Eng-

land. But he was not made for a world in which political bosses will throw a subordinate to the wolves if that way their own safety would seem to lie; and already when he got excited a slight tic revealed what might become a nervous instability. Henley himself, once seated on a hard wooden chair facing his guests, showed nothing of his physical weakness. His torso and head were magnificent. He was a reckless and splendid talker, unrestrained in his loves and hates, in his scorns and his praises. Unrestrained also in his diction; and one evening when Charles Whibley was there, all the resources of the slang dictionary were exhausted between them. Nothing was more amusing than to hear their cultured voices bandying estimates of authors and politicians in words not usual in cultured circles! It was useful to me later on. I had been attached, unexpectedly, to a room in the War Office where not unnaturally I was assumed to be an Oxford prig. On the second afternoon, for some reason, nerves were on edge and strange oaths were being hurled from officer to officer across the room. I didn't understand at first, but then guessed from an occasional furtive glance at me, stooping over my 'jackets'. I volleyed back a shell of Henley-Whibley vocabulary. There was a roar of laughter, and I passed.

One evening when I was alone with Henley, I said something about Robert Louis Stevenson. Henley burst out in a tirade, bitter, venomous and in more convincing detail than in the article he wrote about his dead friend a few years later. The root of the grievance appeared to be that there had been something of a Mr. Hyde, well known to Henley, in Stevenson's youth, and that therefore the bland morality of his later writings was hypocrisy. I could not tell Henley that I did not believe his definite statements, but I did suggest that his argument did not follow. Anatole France put into the mouth of M. l'Abbé Jérôme Coignard the phrase that great sinners are the raw materials of great

saints, and any youthful indiscretions of Stevenson were not incompatible with a subsequent recrudescence of lowland Scotch moralising. But Henley was not to be argued with. He was even more bitter, although without allegation of facts, against Sidney Colvin, then editing the Edinburgh edition of Stevenson's works and making himself the sole authentic prophet of Stevenson. But that dislike was inevitable; there was no common measure between Colvin's acidulous pedantry and Henley's robust swashbuckling. Later on I found that Colvin's very wide knowledge of prints was not infallible. Fitzmaurice Kelly, the Spanish scholar, gentlest and most learned of men, brought to the Savile Club one Saturday afternoon a bundle of drawings reputed to be genuine, by Goya. They had been entrusted to him by a Spaniard who could not sell them himself, on the terms that he wished fifty pounds down for them and twenty-five per cent of anything in excess of fifty pounds that could be got for them. If they were genuine they were worth a very large sum; if not, a few shillings. Kelly knew that I was interested in Goya and had been studying recently a very large collection of German reproductions of his drawings. He proposed that he, I, Gosse and Alec Ross should share the risk and the bargain. I thought they might be genuine, but I was hard up and knew that Kelly had no money to risk. I proposed, and the others agreed, that we should ask Colvin to give his opinion and abide by the result. Colvin rejected them with contempt. Later on Fitzmaurice Kelly heard that they had been accepted as genuine by the authorities in Madrid and had been sold for a very large sum!

But the *Saturday Review* was the chief source of my literary income from the end of 1894 until 1903. It had recently been bought by the Ochs Brothers, a London firm chiefly interested in South African finance. Albert Ochs, the active and senior partner, was not only an astute financier,

but a patron of art, music and the drama, and at least very well disposed to literature. He had appointed Frank Harris as editor, and the understanding was that the financial columns were to be at Ochs's disposal, that he was to have a say in anything relating to South Africa, but that otherwise the editor was to spare no expense in getting good writers in the arts, literature and science, especially if such writers were young men judged to be of promise. Harris certainly fulfilled one side of his bargain, for amongst those to whom he gave opportunities were George Bernard Shaw, H. G. Wells, Max Beerbohm, and Cunninghame Graham. I shall have more to say about Harris, but now I may give the end as well as the beginning of his connexion with the *Saturday*. I have had the story both from Frank Harris himself and Albert Ochs. Frank went to see Ochs:

'You will agree, Albert, that I've made a fine thing of the *Saturday*. I haven't spared your money, but I've got you the best writers and have done a great deal for literature and art and music. People may hate the *Saturday*, but they all read it, and have to respect it or fear it.'

'Yes; quite true; I am very pleased. Do you want more money?'

'No, it isn't quite that. You've always been generous. But one has one's pride; I'd like to feel that I had an interest in the paper. Could you not make it into a company and let me have some shares?'

Albert smiled condescendingly:

'If you were to see the accounts, you would understand that it doesn't pay, and can't pay. Leave well alone and take a few more hundreds as salary.'

'But I think it is going to pay, and if I were part owner I would see that it did pay.'

'Very good; have it your own way; we'll turn it into a company and you'll have all the shares you want.'

In a few days the company was formed and Harris was

given a majority of the shares. Next morning he took them to a rival South African firm to which he sold them.

In fact, however, at that time Harris was getting tired of the drag of editing a weekly paper, and the respectable world, not for the first time, was looking askance at him. There had been publicity for an unpleasant episode. One of the financial adventurers (E. T. Hooley, I think) who from time to time flare up in London on bigger and bigger flotations and then retire to gaol until they return to the pleasanter retirement of their wives' country mansions, was in unstable equilibrium at the top of his curve. There were legal proceedings in which Harris was concerned, and although I do not think that the disagreeable word 'blackmail' was used in court, it was very freely employed in gossip. Some of the contributors to the *Saturday* were alarmed, and Harris invited them to luncheon at his country house near Richmond Park. Churton Collins, and a distinguished professor from Trinity College, Dublin, were the most anxious of the party. Harold Frederic, with his Christian Scientist wife, was there, and Harris had allowed me to bring my French friend, Gilbert de Voisins, who happened to be staying with me. I recall an irrelevant episode. Harris's garden, marching with the Park, was luxuriant, and as Harris knew about food, the kitchen garden was appetising. Before lunch, I was walking round it with Frederic, who also lived in the country and commented on each individual vegetable, its condition, its variety, how to nurture it.

'You have a kitchen garden too,' I said.

'Certainly not. Once I grew vegetables; now nothing but flowers. When I had sown a marrow or a cucumber, watched it flower, watered it, covered it up at night, and let the sun get on it by day, I could no more eat it than I could eat a pet lamb!'

After lunch the ladies left and Harris began to talk. He

spoke of the high place of art and letters in human life, of the patient labour of scholars and of their poor reward. He spoke of the past when scholars and philosophers, painters and musicians had to humble themselves before princes and nobles to get the beggarly pittances on which they lived. He poured scorn on the 'best sellers' who gained money and reputation by playing down to the gullible rich and the ignorant poor. He enlarged on the rascality of financiers who amassed huge fortunes by swindling shareholders, and spent them in corrupt and corrupting extravagance. Such people were outside the pale, but fortunately with them it was easy come and easy go, and by tact and judgment it was possible to abstract from them money which could be put to better purposes. Blackmail! Nonsense! Try it with these people! They were themselves experts at the game, and no amateur, even if he ventured on the dirty business, could have a ghost of a chance.

Robin Hood brought up to date! An argument very skilfully attuned to its purpose, spoken with a fervour and an eloquence only possible to a man who for the time being at least was believing what he wished the others to believe. And certainly he comforted his contributors. As Gilbert de Voisins and I went back to London, he agreed with me that the two professors had been won over, and said that never, even in a French court, had he heard a piece of special pleading so superb in manner and matter.

Another luncheon of a different kind with Harris I remember well. He took me from the *Saturday Review* office to the Café Royal where, at a reserved table, the other guest, Horatio Bottomley, was waiting. The two were a contrast. Harris with his deep loud voice, fierce black moustache, black hair, tanned face and sturdy athletic figure, might well have been the leader of a guerilla party; Bottomley, fat, loose-lipped, with a smooth pale face and a soft voice, seemed an unhealthy product of the town. They were both

good talkers, sharpening the antagonism of their views as they argued. Harris was an internationalist, every country his oyster. Bottomley swathed himself in the Union Jack and exuded a slimy patriotism. After luncheon, warmed by rich food and much champagne, they settled to liqueur brandy and to matters on which they agreed. They were like two augurs chuckling together over the folly of their clients.

Poor Harris! If George Wyndham were too overburdened with unselfish loyalty to succeed in this modern world, Harris was too devoid of any idea of loyalty to keep any position he had won. In the Middle Ages he would have fought and blustered his way through life, now in a dungeon, now the master of a rich province and of a king's mistress. And yet he had a rich mind, widely cultured, and there was a touch of genius in his own writing. After the *Saturday*, he had brilliant ups and dismal downs. When the War came he was suspect in France and in England, on what grounds I do not know, except his great knowledge of German and his outspoken attacks on France and England. Some of us had difficulty in getting him safely through England to the United States, which were then still neutral. Speedily he got into trouble there, and had a bad time when that country took sides. After the War he edited a 'Red' paper and wrote and published a ruthless psychological study of Oscar Wilde, and a number of biting stories by himself and others describing the treatment of revolutionaries under the star-spangled banner.

William Heinemann introduced me to Harris in the end of 1903, and as long as he was the editor of the *Saturday* he let me write as much as I could for the paper, paying me what was for me a high and welcome rate and giving me a free hand. At first he took much trouble, going through my proofs with me, showing me how to point and simplify what I had been trying to say, with patience and courtesy.

Later on, he let me send my copy to the printers and go there to correct it myself. I owe much to him, materially and in friendliness, and he would have disliked nothing more than attempts to repay it by a whitewashing account of his personality.

I have kept press cuttings of nearly everything I have written, and it amazes me now, looking through them, to see the huge space I occupied during more than ten years, first under Harris, and then, chiefly on scientific subjects and in a more restrained way, under a very different editor, my good friend Harold Hodge. There were notes, reviews, leading articles and 'middles'. I am proud of one review. In addition to books supposed to be worth reading, there used to be sent to me great bundles of miscellaneous books, some of which required hardly even a line, others a comment, but none expected to be the subject of a real review. Amongst one bundle, in 1895, there was a slim volume, *Notes on the District of Menteith for Tourists and Others*, by R. B. Cunninghame Graham. The author was unknown to me, except for a gallant bout with the police in Trafalgar Square, but I did know the country from Stirling to Loch Katrine. I turned over the leaves idly thinking to refresh my memory of familiar places. But the book was literature. I gave it three-quarters of a column in which I tried to reveal the joyous admiration it gave me. And I ended with advice into which, I hope, Cunninghame Graham did not read an impertinence that was not intended. I ended:

'Mr. Graham has found his vocation. We hope that he will cease to "fash" himself with politics, and give us many another book, small or great, but, like this, discursive, poetical, full of ingenious reflection and pleasant distortion of history. And may he furnish a set of character sketches such as that of "Trootie", who had "never soiled his hands with honest toil, that honest toil we talk so much about and all avoid. Nature turns out a perfect fly-fisher but very

seldom". So also, we may add, she is prolific in politicians, but chary of agreeable writers.'

I wish I could believe that this, almost certainly the first notice of his work, had even the smallest influence in encouraging the production of the long list of books by which Cunninghame Graham has added to the pleasures of the world. But at least it did lead to Harris getting him to be a contributor to the *Saturday Review*.

Another review in the *Saturday*, written some years later, brought me in personal contact with Dr. Charlton Bastian, a distinguished physician who had specialised in diseases of the nervous system, and by his work in the consulting-room, the wards of a great hospital and in the laboratory, had gained a high place. But also he was almost the last adherent of a belief in spontaneous generation. True, it is impossible to prove a negative, but the patient work and continually improving technique of thirty years had disproved every alleged case. It could be said that the possibility of doubt varied inversely as the skill of the investigator. The result had come from the work of no special school. Pasteur, who was a devout Catholic, and Tyndall, who was neither devout nor a Catholic, had made contributions to it with equal fervour. A huge book by Dr. Bastian, *Studies in Heterogenesis*, came to me for review. He had worked with many kinds of bacteria, with moulds and algae, with amoeboid, flagellate and ciliate protozoa, with sporozoons, hydroids and rotifers, in short with a wide assortment of microscopic forms of life. He believed that he had found evidence for the spontaneous origin of most of these in preparations made in his own laboratory in which pre-existing organisms of the same kind did not exist. Now Bastian's opinions on that matter were well known and had been treated by biologists with contemptuous disrespect. But the question was not merely one of biological importance. At that time the intimate relation

between the presence of certain low organisms and the occurrence of various diseases in men and animals was the keynote of advances in medical science. Almost every day a new disease was shown to have its living seeds in microscopic organisms as individual and as distinct as are the species of higher animals and plants. Did such living seeds arise spontaneously, or could one be transformed into another, there was a bar to a new hope for the treatment and prevention of disease. I was struck by Bastian's sincerity and, instead of treating his book with disrespect, wrote a long and courteous review in which I tried to explain the past history of the subject and its relation to an extremely elaborate and specialised technique. Bastian wrote to the editor, full of thanks, saying that it was the first time his work had been treated seriously, and that he followed the writer's argument, but was quite sure he could convince him were he to be good enough to pay a visit to his laboratory and see for himself.

The editor sent on the letter to me saying that he did not give away the names of authors unless with their consent, but leaving me a free hand. I wrote to Bastian and kept an appointment he made. He was charming, but it did not take two minutes to realise that his technique was hopeless. He knew little about the life-histories of the different kinds of organisms with which he was dealing, and nothing at all about the extreme difficulty of securing sterilisation. Anything might have turned up in any of his tubes. But there was nothing of the charlatan in his simple sincerity. We soon gave up the attempt to convince each other, and parted good friends, each a little sorry that the other, clearly intelligent and honest-minded, had a blind spot for the obvious truth. A lesson in life very difficult to learn, and often forgotten even by those who are sure they have learned it, is that the sway of reason is partial even in trained minds, including one's own, and almost impotent in most. That

great and good man, Alfred Russel Wallace, had an absolute faith in the message of plain facts and nearly ruined himself in constructing a long straight canal, the curved surface of which should prove to an obstinate unbeliever that the earth was round. Possibly the Inquisition and Adolf Hitler have logic on their side in thinking that fire and concentration camps are more efficient than persuasion and toleration in supporting sound views. But who is to judge what views are sound? Are benevolent hearts better than clear brains? I do not know. Well-meaning fools have done much harm in the world.

Early in 1896 M. Javelle, a French astronomer, had observed a luminous projection on the southern edge of the planet Mars. This gave rise to a fresh out-crop of speculations as to the presence of intelligent life on Mars, and in particular it was suggested that the inhabitants of Mars were flashing messages to the conjectured inhabitants of the sister planet Earth. In April 1896, under the title 'Intelligence on Mars', I wrote an article in the *Saturday*, exploring the speculation. There was no doubt, I wrote, but that Mars was very like our Earth. Its days and nights, its summers and winters, differed only in their relative lengths from ours. It had land and oceans, continents and islands, mountain ranges and inland seas. Its polar regions were covered with snow, and it had an atmosphere and clouds, warm sunshine and gentle rains. The spectroscope had given reason to believe that the chemical elements familiar on the Earth existed on Mars in much the same proportions. The planet, chemically and physically, was so like the Earth, that as protoplasm, the only living material we knew, had come into existence on the Earth, it might also have come into existence on Mars. As protoplasm had blossomed out into sentient creature on the Earth, there was no improbability that it had taken a similar course on Mars.

But it was not a necessary or even a probable conclusion

that the efflorescence of protoplasm had been similar in detail, and would have culminated in anything like Man.

'The organs of sense are parts of the body and, like the bodies themselves and all their parts, present forms which are the result of an almost infinite series of variations, selections and rejections. Geographical isolation, for instance, has been one of the great modifying agencies. Earth movements, the set of currents and the nature of rocks acting together have broken up groups of creatures into isolated sets, with the result that the isolated sets have developed in diverging directions. He would be a bold zoologist who would say that existing animals and plants would have been as they are to-day had the distribution of land and water in the Cretaceous age been different. Since the beginning of the chalk, all the great groups of mammals have separated from the common, indifferent stock, and have become moulded into men and monkeys, cats and dogs, antelopes and deer, elephants and squirrels. It would be the wildest dream to suppose that the recurrent changes of sea and land, of continent and of islands, that have occurred since the dawn of life on the Earth, had been at all similar on Mars. Geographical distribution is only one of a vast series of independently varying changes that has gone to the making of man. Granted that there has been an evolution of protoplasm on Mars, there is every reason to think that the creatures on Mars would be different from the creatures of the Earth in form and function, in structure and habit, different beyond the most bizarre imagination of nightmare.'

Even if sentient creatures had arisen, there was no reason to suppose that their senses would be comparable with human senses. We ourselves only saw a small range of the spectrum, heard only a narrow range of vibrations, were limited in smell and taste and touch. The ranges of sensation in Martian organisms might, and probably would, be

wholly different from human ranges. Even among the animals of this Earth we guessed at the existence of senses not possessed by ourselves. Had the universe no other facets than those she turned to man? With creatures whose evolution had proceeded on different lines, resulting in shapes, structures and relations to environment impossible to imagine, it is sufficiently plain that their appreciation of the environment might or must be in a fashion inscrutable to us.

Two years later, H. G. Wells, in *The War of the Worlds*, reasoning on similar lines, elaborated his brilliant conception of the strange inhuman Martians and their attack on the world.

I pick out from my mass of *Saturday* articles only one other, and that because it had an unusual success, exciting comments, critical, comic, or friendly, in a multitude of newspapers and bringing me private letters untold, and also because I could now supply more cases in support of the thesis. The article, which appeared over my own signature in August 1898, was called 'Health and Brain-Work'. After giving some examples of the brain-drowsing influence of open-air exercise and open-air holidays, I wrote:

'These familiar instances are brought forward as the introduction to a proposition or generalisation which, once made, appears to me self-evident. The proposition is that in the vast majority of cases the best brain-work of which individuals of average or unusual ability are capable is performed under conditions of imperfect health. So far from there being an obvious truth in the familiar tag, *mens sana in corpore sano*, the case is precisely the reverse, and unless we are to give to the term *sana* a preposterous meaning, the mind at its best is to be found in a body *not* at its best. I have no reasoned theory to account for this apparent paradox; but the suggestion lies ready to hand that the higher kind of mental work is the most recent historical acquisition of man,

and that the conditions favourable to it have not yet become an integral portion of the fibre of brain and body. In the course of the long struggle for existence, man has been moulded by the forces of nature to robuster purposes than chopping logic, writing poetry or developing theories, and these higher functions of the brain can flourish only in the secluded garden of an artificial civilisation. So also, we know, the wall-fruit bringing to perfection its luscious droplets of condensed sunshine is less healthy than its sour ancestor in the woods. Take it from its sheltering background of brick and artificially stimulated soil, and although for a time it may flourish in a new luxuriance of shoot and leaf, it will certainly fall short, in quality and quantity, of its golden produce.

'I am on surer ground, however, when I turn from theoretical explanation to marshal supporting facts. I do not think it can be doubted that, as classes, country clergymen, army men and country gentlemen enjoy a ruder health and have a less frequent resort to doctors and drugs than barristers, journalists and medical men. The natural conditions of their lives are more near the aboriginal environment, and their open-air habits, with moderate exercise, regular rest and easy regular employment, conduce to perfect health. I do not think it can be doubted that, as classes, clergymen, army men and country gentlemen are characterised by brains less active in the higher intellectual functions than the brains of the less healthy professional classes. I am speaking, of course, of average results, as the influence of uniform conditions on masses of individuals can appear only as average results.

'The case for my proposition becomes even stronger when pre-eminent brain-work is considered. I cannot, at the present moment, recall a single great poet, man of letters, or man of science, in fact any person greatly distinguished by the product of his brain, who was a type of good health.

Examples to the contrary surge into the mind. Most people will remember the attempts of Lombroso and of others to prove a connection between genius and insanity, or between genius and the stigmata of organic degeneration. These attempts have always seemed to me unscientific and exaggerated; but they are at least strong enough to establish a general connection between fine brain-work and ill-health. Consider Newton, always an invalid; Clerk Maxwell, who died young after a life of ill-health; Darwin, who after he had reached adult life was probably never well for three consecutive days. Consider Poe and Pope, Chatterton, Keats, Shelley, Byron, Heine and a thousand other poets. Consider Gibbon and Carlyle, De Quincey—it is needless to prolong the catalogue. But I would ask readers to think over the distinguished people they know. It is difficult to cite the names of living, distinguished persons, but for my own part I am certain that I do not know a single person whose intellect I respect greatly who enjoys robust health.'

I see no reason to alter the general conclusion of that old essay. I could add to it names of persons of my own acquaintance alive then, now dead. And I should add also that many persons of high natural ability have subdued a strong constitution by excess of drink, drugs or tobacco, sufficiently to prevent it from impeding their brain-work.

In the late nineties, *The Times* undertook to reprint the ninth edition of the *Encyclopaedia Britannica* and issue the twenty-four volumes simultaneously at about half the original published price. That bold enterprise, and, for its time, colossal feat of printing, had a success even beyond the expectations of those responsible. Almost at once the preparation of a supplement was undertaken, and was published in 1902, in eleven volumes which, with the original twenty-four, constituted the tenth edition. I was invited to contribute some articles to the supplement, including one

on evolution. Simultaneous printing required a careful programme of time and space, and the exact length of the copy and the date for its receipt were specified. My copy was sent in as arranged; the small space allotted had caused me trouble in condensation, but that was in the day's work. However a few weeks later the article was returned with a polite note saying that, because of pressure of space, it must be reduced by one-third. I replied that it would mean re-casting the whole article and that I must be paid a new fee in addition to the fee as originally agreed. After some discussion this was conceded.

Almost before the tenth edition was completed, arrangements were being made for an eleventh edition, under the editorship of Hugh Chisholm, an old Oxford friend, a man of commanding organising ability and untiring energy. The eleventh edition was to be a new work, brought up to date, and although the best of the permanent matter in the old edition was to be retained, the long comprehensive treatises which were its special feature were to be subdivided into subjects, and distributed under their appropriate headings. Chisholm put me in charge of the whole of biology, palaeontology and zoology, with collaboration from Dr. Rendle, the Keeper of Botany at the British Museum of Natural History, with the assistance of my friend F. G. Parsons of St. Thomas's Hospital, and with power to select and employ such specialists as might be required for individual subjects. Before long a cartload of cardboard boxes was delivered to me, containing 'paste-ups' of all the articles in the tenth edition on the subjects I was to cover. After a fortnight's survey, it seemed clear to me that it could be my chief work for several years, during which it would be unnecessary to do much other paid writing. Chisholm arranged with me a contract price to cover the whole work, including what I paid out to others.

In fact the arrangement on its financial side did not turn

out as I expected. In the meantime I had become secretary of the Zoological Society, my time for private work was reduced to a minimum and I had to pay out the greater part of my fees. But it brought me to intimate and pleasant relations with zoologists and paleontologists who were working at special subjects or groups all over the country. Almost without exception they occupied posts as professors and assistant professors or were on the staffs of museums. I was able to offer fees substantially larger than those I had been accustomed to get for reviews and articles, but corresponding in no way with the knowledge and work implied. I was shocked by their gratitude. The capitalistic system creaks badly in its application of market values to the payment for scientific work. No doubt, in some subjects, such as chemistry and branches of physics, immediate practical applications bring some financial reward to scientific labour, but it is not so in most branches of science. A biologist, for example, may have employed ability of a high order and all the time most people devote to play, in making some real contribution to knowledge, and yet has to go begging to get his results published, and may even be asked to pay the cost of making the drawings to illustrate it. Later on I proposed to a committee of zoologists that the Zoological Society should pay authors for the memoirs it published. The proposal was rejected, almost as an indignity. No doubt something has to be allowed for the rigid conservatism of most scientific men in everything except science, but at least it forms part of the evidence opposing the capitalistic theory that work is done for money, and that under a system in which more and better work did not mean more pay, the world would lapse into sloth.

By the end of 1910 Hugh Chisholm had brought his great task to a successful conclusion, and the launching of the eleventh edition of the *Encyclopaedia Britannica* was celebrated by a public dinner. I was placed between W. T.

Stead and Lord Northcliffe, and as I had been set down for a speech was nervous as usual. My two neighbours were both most kind and sympathetic, and kept me amused through dinner. A few minutes before my time came, Northcliffe whispered:

'Don't mind us if you want to look at your notes. Bend forwards and I'll talk to Stead behind your back.'

Of course, I had prepared carefully and, as always happens when that has been done, found an easy opening clue in something the last speaker had said, and then got on to my prepared point. I told them that, being frightened at the prospect of having to address so large and distinguished an audience, I had consulted the article 'Divination' in the *Encyclopaedia*, and had come on the *sortes virgilianae*. I had taken down a book at random, which turned out to be *La Double Maîtresse* of Henri Le Regnier, and stuck a pin into it. The *sortes regnerianae* gave this. A cardinal had hurried home from a papal conclave to his palace, and had divested himself first of his robes, then of his black *soutane*, then of his shirt, until he stood, a naked man. The cardinal in his gorgeous robes was the *Britannica* as it was presented to the public in glowing advertisements; the grave abbé in his *soutane*, as it appeared to the chancellor, masters and scholars of the University of Cambridge when they agreed to publish it; the gentleman in his shirt, to the editor; and the naked man, on the whole a fine figure, but with here and there a surgical scar or a birthmark, as we the contributors knew it to be. The speech went with a swing.

CHAPTER XI

The Zoo
1903-1935

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Almost from the first day of duty as secretary of the Zoological Society (April 30, 1903), I was pursued by a phrase which has haunted me for more than thirty years. 'Oh! Dr. Mitchell,' a lady said to me that evening, 'what a charming time you must have among all the dear animals. I do so envy you!' But the secretary of the Zoological Society has little time for intimate relations with the animals, and as during my period of office the affairs of the Society grew in size and complexity, my direct relations with the animals came to be limited almost wholly to morning walks before the office was opened, and to evening walks after the gardens were closed to the public. But at first I had so much to learn that I spent much time in the gardens. I was an anatomist, interested in the structure and relationships of animals, but knowing little of them as living creatures, and had to become acquainted with their rations, their dispositions and habits. I was not even by training or disposition the kind of naturalist who can at once recognise and name a species from its appearance, or be confident that he is looking at a creature new to him or new to science. Fortunately the keepers could teach me about the living animals, and I came to have colleagues, Mr. R. I. Pocock, Mr. D. Seth Smith, Mr. E. G. Boulenger and Miss Joan Procter, who had the gifts and the knowledge for identifying species, and behind them there were always the experts of the British Museum of Natural History.

But at first I tried to know the animals individually. There were some amusing experiences. An early one related to a young polar bear which was surly, and, the keeper told me, required a dose of castor oil. The keeper agreed to assist, and we went into the den. After half an hour's struggle, during which we both had our coats torn and the bear had swallowed possibly three drops of the oil, we gave it up. Just before we locked the door I poured the contents of the bottle into a dish and put it on the floor. The door was hardly closed when the bear came forward and greedily licked up the whole dose! Another bear-incident shows another side of animal psychology. I was rung up by the police asking if we would be willing to take temporary charge of a bear. The owner, an itinerant bear-leader, had just been sent to prison for cruelty to his bear, and they did not know what to do with the animal in the meantime. We sent for it and lodged it in a comfortable den. But no effort of the keepers could persuade it to friendliness. It retreated, growling, to a small dark sleeping-box at the back of its den, and for several weeks came out only at night to take the food and water placed for it. Then the owner, his sentence expired, came up with an interpreter to claim his bear. I went to see what would happen, a little doubtful as to what could be done were the owner to treat it unkindly. As usual the bear was lurking in the dark. I had the cage opened; the owner made a little grunting noise and at once crawled into the cage and put his head in the sleeping-box. The bear came out at once, put its paws on its master's shoulders and began to lick his face. The two rolled on the floor together in an ecstasy of happiness.

I had some pets of which the most attractive were a caracal and a tree hyrax. I have written about these at length in *The Childhood of Animals* (Heinemann, 1912), and here I wish to say only that they taught me one thing. Wild animals are far superior to domestic animals in what would be

called intelligence in human beings, that is to say, the power of adapting their behaviour to conditions and circumstances which could never have come into their actual or racial experience. What we call instinct is an adjustment of responses to particular circumstances almost as close as the fitness of a key for the wards of its lock, and differing from chemical and physical reactions in little more than its complexity. But in many of the higher members of most classes and orders of the animal kingdom, and especially in those where there is a period of youth, there is an experimental factor which softens the rigidity of the responses, makes them more fluid, more capable of responding to conditions which differ in some respect from the prescribed conditions. The process is seen most actively and most successfully in the play of young animals. It is extremely doubtful if any animal which has a period of youth, and is taken over during that time, cannot be made to attach itself to one or more human beings and to become not only 'tame' but affectionate and 'trustworthy'. 'Taming' requires no special gift, but only patience and knowledge. None the less I am very doubtful if the making of wild animals into 'pets' should be encouraged, and to me at least it is distasteful to see children hugging and mauling wild animals. At the Zoo, moreover, we learned to distrust 'pets' offered to us as gifts. In most cases they had been wrongly fed and wrongly managed and frequently were rickety or had acquired some infection.

By a royal charter, granted in 1829, the Zoological Society of London has a constitution which gives nearly autocratic power to a Council of twenty-one Fellows. Of these, the president, treasurer and secretary have to be elected or re-elected every year, with no term prescribed for the period during which they may hold office. Of the others, five retire every year but are eligible for re-election after one year. The nomination of the Officers and of the five

members to retire and the five Fellows to take their place lies with the Council. It is possible for the Fellows to propose alternatives, but that right is hedged by so many formalities that it is difficult to exercise. Fellows have rights with respect to alterations in the by-laws and can propose motions requesting the Council to do this or that. But these rights cannot be exercised at the annual general meeting, the only occasion when it is the custom for many Fellows to be present, and at the monthly meetings the rights are hedged by so many formalities that the cards are stacked in favour of the Council. There is little open to Fellows except occasional indulgence in the sport of secretary-baiting, and partisans of that sport are apt to state their case in a fashion which dispels any sympathy it might deserve. Only in an acute crisis can the governing body, if honest and well-meaning, be attacked successfully.

In 1901 and 1902 there were signs of the approach of such a crisis in the affairs of the Zoological Society. The secretary, Dr. Philip Lutley Sclater, had been in office for more than forty years. He was a man of high character and scientific distinction, a founder of knowledge of the geographical distribution of animals and a leading ornithologist. But although he took a wide interest in zoology and was an untiring friend of young zoologists, his scientific bent was towards the description and naming of animals rather than to the details of their health and housing. For many years he had been well served by the superintendent, Abraham Dee Bartlett, originally a taxidermist and small dealer, but with a genius for handling animals and a vast experience of their habits, although without knowledge of hygiene and diseases, and with notions of housing more suited to a dealer's backyard than to a public institution. When he died in 1897, at the age of 85, the management of the gardens was allowed to fall into the hands of Bartlett's son and other relatives. Things went from bad to worse.

The gardens fell into public disrepute, and if the attacks made at meetings of the Society had not been associated with personal attacks on Dr. Sclater, which were justly resented, they might have been more immediately effective.

In October 1902, the secretary announced his resignation, to take effect at the end of the year, and the president appointed a committee to enquire into all the affairs of the Society and make recommendations for the future. After a long investigation, it recommended drastic changes in almost every branch of the Society's affairs. Meantime the president and three other members of Council were appointed as a committee to receive applications for the secretaryship and to present a short list of candidates to the December meeting, as the Council had the duty of filling the vacancy until the annual meeting in April. The contest narrowed down to Dr. Sclater's son, W. L. Sclater, and myself. Under normal circumstances, W. L. Sclater would have been a most eligible candidate; he was a graduate in honours of Oxford, a personal friend of most of us. He was elected by a majority of the Council. There was a strong feeling, however, that the necessary changes in the Society would be difficult for the son of the late secretary to carry out, and with the approval of the president, the minority of the Council and most of the university professors of zoology in Great Britain, it was decided to nominate me against the Council's choice at the annual general meeting. Then followed the humours of a contested election, a novelty in the long history of the Society. There were unofficial meetings of Fellows, articles and correspondence in the Press, and troubles at the monthly meetings. In the end I was elected by an unexpectedly large majority of votes, many of which, I do not doubt, were given less in favour of me than in the wish for a complete change in the management of the Society.

Thus at ten in the morning on April 30, 1903, I arrived

at the office of the Society, in full charge, but without knowledge of the routine, and rather at a loss, as my predecessor, naturally but inconveniently, did not appear to hand over. There was no private secretary, no typewriting machine except one I had brought with me, and no one except myself who knew how to use it. There was no copy-letter book, although manuscript copies of a few letters deemed important had been kept, and there were masses of things left, so to speak, in the air. However, with the help of the accountant and the clerk, I got to work, and then callers began to arrive, some easily disposed of, but one troublesome. He was a Fellow of the Society and began by saying:

'It is only fair to tell you that I worked as hard as I could against your election, but I thought that I was acting in the interests of the Society. Now I see I was mistaken, and as the Society is very dear to my heart, I wish to congratulate it and you.'

'Well, that is very kind of you, but isn't it a little too soon? Perhaps I'll make a mess of things.'

'No; I am a judge of character, and the moment I came into the room I knew that you were the man for us.'

'Well, it is really very kind of you,' and I rose to shake hands. But he went on:

'I have done some small matters of business for the Society, but I am glad to say, thinking over its interests, I have thought of a way in which I could help much more.'

Then he went into details about a scheme of a very alluring kind for insuring the lives of all animals in transport and after their arrival at the gardens. But after listening I said:

'But I don't see where you come in, in that; so far as I can follow, it is all to our advantage and you are bound to lose.'

'Not at all; you'll forgive me, but a distinguished scientist like you cannot be expected to know the details of insurance business, and I can assure you that I am very

glad to have the opportunity of doing something for the Society.'

Well, he was right so far; I knew nothing of the insurance business; but I did know that no bargain in business is a good one unless both sides are going to get something out of it, and that if my visitor was not prepared to admit anything except quixotic generosity, I'd do well to make some enquiries before committing the Society. And so murmuring about its being my first day at the office, I got rid of him, promising to write. But it was unnecessary to make enquiries; the trap in the scheme was so simple that I ought to have seen it at once. After two days I wrote a politely curt refusal which made the Fellow change his rash opinion of my fitness for the post.

The details of getting an office into order and accommodating oneself to the duties of administration are not interesting, but it took me many weeks working more than a reasonable amount of hours a day before I found out what and how much could be delegated. Council meetings, scientific meetings, committee meetings, contracts, plans, proofs, accounts and people, to select a few headings, absorbed the working day. We had many contacts with Government departments, but nearly all the officials of these, from the Treasury downwards, did their effective best to find ways of meeting our difficulties. Minor officials, whether of Government departments, the County Council or the borough councils, were more trying, probably because they found it the safest course to adhere to the letter of the law. For some time it was extremely difficult to get sanction for the plans of new buildings. Plans had to be passed successively by the garden Committee, the council, the borough surveyor, sometimes by the County Council and finally by the Office of Woods and Forests and the Office of Works. Fortunately Sir George Leveson Gower, permanent head of the Woods and Forests, and Sir Lionel Earle, head of the

Office of Works, arranged that the consent of one office should cover both. When the Mappin Terraces were being built, the late King George paid a private visit and I told him how we had been helped. He asked why these two offices were concerned, and then added: 'I always used to get mixed up between these two offices until I remembered that anything to do with buildings was the job of the Woods and Forests, and anything to do with the parks came under the Works!'

I had the honour of talking to His Majesty a good many times, and although his kindness of heart was well known, I recall one instance with special gratitude. On the morning when the new aquarium was to be opened to the public, the King and Queen paid a private visit, and were received by the Council and curators. The party was scattered over the large salt-water hall, and the King, with whom, for the moment, I was alone, asked me who had been responsible for different parts of the work, and in particular for the decorative treatment of the tanks. I told him about Miss Joan Procter's work.

'The young lady over there? She looks very delicate.'

'Yes, she is very delicate, and she is here to-day only because her mother, who is dying of cancer, insisted that she should come.'

'Poor girl.'

Then we moved on, and when we got near the others, the King unostentatiously went to Miss Procter, took her across to one of the tanks and talked with her for a few minutes. And then, when the royal visitors left, they had Miss Procter called forward and the King and Queen each shook hands with her and said something. Afterwards she told me that the King had chatted to her for a time about the brightly coloured fishes in one of the tanks, telling her that they were like some he had seen at Bermuda, only smaller, and that in shaking hands with her he had said:

'I hear that your mother is very ill; tell her that the King and Queen wish to thank her for sending you here to-day to show us your work.'

Argumentative people are a treat to a Scotch mind, especially when the argument turns on the interpretation of the by-laws. Some of these related to the privileges of Fellows with respect to Sunday admission. The office had been slack about these, and I pulled the strings tighter, but still there were far too many free admissions and gifts of tickets. I got the Council to pass a resolution instructing the secretary to see that the by-laws were strictly observed. This led to a great reduction, but also to many complaints, one of which came from the late Lord Curzon of Kedleston. The ex-viceroy, it seemed, had been in the habit of sending for and receiving batches of tickets and even of sending parties with his private card in lieu of tickets. He was one of the honorary members, paying no subscription and entitled only to personal admission, with, by courtesy, two friends accompanying him. I gave instructions that his next application should be sent up to me. It came; I sent the tickets with a polite note saying that such an issue was against the by-laws of the Society and that the Council had directed me to observe them strictly. Next day a message came requesting a copy of the by-laws, which was sent. The following day came three folios in Lord Curzon's own handwriting, examining the by-laws and interpreting them in his own favour. This was pleasant meat, and I promptly replied, taking up his points. Two days afterwards Lord Curzon was shown into my room, bearing in his hand a sheaf of papers.

'I wish to see someone in authority about these by-laws.'

'Well,' I said, 'I fear I am the authority, except once a month when the Council is sitting, and then I am only one twenty-first of it.'

He laughed quite pleasantly, and then we sat down to half an hour of argument. We agreed in the end that as an honorary member he was not entitled to tickets. Afterwards I met him several times in the gardens on Sundays. He always began by saying that he was exercising the only privilege of which I had not yet robbed him, and then chatted about animals. Although his face and figure looked healthy, he seemed to be in pain sometimes, and was glad to sit down. I thought that, as he was always alone, he had come in restless quest of distraction, rather than for pleasure.

But there is a class of complainants to whom argument is distasteful, and there is no general policy for dealing with them. Sometimes it is sufficient to let them talk out their grievance, sometimes they pass rapidly to abuse and to threats. There was one very troublesome Fellow, an able solicitor, rather unpopular with other members of his profession, quick-tempered and ready to go to any legal extreme in pushing his grievances. But I got to like him, and although he was a persistent obstructionist, we became friends. I won his heart when he was threatening some legal action against the Society by asking him to tell me, as a friend, if I should be within my legal rights in refusing him certain information for which he asked. 'No,' he said quickly, 'that would be playing into my hands,' and then he laughed and said that he wished I was in partnership with him. Later on he claimed that some regulation made by the Council about admission to the aquarium was illegal, and in the most friendly way begged me to commit a technical assault on him by placing my hand on his shoulder to restrain him when he was about to break the rule. I rejected his proposal on the ground that I couldn't count on myself to keep the assault merely technical. He was unreasonable but, so far as I could see, completely open in his controversial methods, and a good fighter without a trace of vindictiveness. But for a time he was associated with, or

rather, was using, a different type, a malicious barrister who by some unhappy chance had got himself elected a member of Council and then tried to sabotage the proceedings generally. The end came when he nearly succeeded in wrecking an important scheme on which we had agreed after prolonged discussion, by starting legal hares which caused delay, costs of counsels' opinions, and a case in the courts. A judge in chambers decided in our favour in a few minutes, but added that if the secretary would make a statement saying that the proposal in his opinion was to the advantage of the Society, he could put his decision in such a way as to prevent any other recalcitrant Fellow giving trouble. That was done, but in a few days the cause of the trouble came to my room and accused me of this, that and the other, until I gave him the choice of going out of the door or out of the window. He chose the door, but wrote a formal letter to the Council complaining that the secretary had threatened to throw him out of the window. The Council very properly passed a resolution stating that 'by such action as throwing a member of Council out of the window, or even by the threat of it, the secretary would be acting in excess of his duties', and not long afterwards, when that oil had not calmed the troubled waters, invited and received the resignation of the member.

There were many attacks on the Society and on its management of the gardens, often leading to public controversy. The most persistent related to feeding of the reptiles, and was conducted, for the most part, by people whose personality and motives I respected. On one point I agreed with them. Giving living mammals or birds to reptiles in front of a gaping crowd on Friday afternoons, as had been the habit of the Society from its foundation, seemed to me degrading, not because it was cruel, but because the spectators or many of them believed it to be cruel. On the facts, I did not agree with them. By careful watching, my colleague,

Mr. R. I. Pocock, a most observant naturalist, and I had satisfied ourselves that rats and mice, rabbits, guinea pigs, kids, ducks, chickens and pigeons, all the birds and mammals on which the reptiles were fed, had no instinctive fear of snakes, showed no signs of discomfort in their presence, and were killed at least as painlessly as when they were picked up and killed by keepers.

I carried the observations to creatures which were not used as food for the reptiles, by taking round living snakes of different kinds and presenting them to the different kinds of birds and mammals. There was a result which I did not anticipate. When a living snake, swaying its head and neck and thrusting out its forked and flickering tongue, was held up to the bars of a cage, or even allowed to put its head between them, no single species of mammal or bird, with exceptions I shall mention, showed any reaction except curiosity, or such shrinking as when a stick or a rod was pushed at them. But every ape and monkey, from orangs and chimpanzees down to the smallest South American monkeys, showed instant recognition of danger, and drew back in what seemed gibbering alarm. Lemurs, which naturalists now regard as distinct from apes and monkeys, showed no dread. The only birds affected were parrots and the higher kinds of perching birds; their recognition and panic fluttering could be interpreted as nothing except the most anxious effort to get out of danger. It is another odd link between human beings and the great apes that many of us appear to have inherited an instinctive dread of snakes. But there is still a problem about which I am uncertain. A very young orang brought to this country when it was still an infant, and a young monkey born in the gardens, showed no trace of antipathy to living snakes, but accepted them readily as toys. I do not know if the dread is an instinct that awakens after a certain age, or if it is a habit acquired by experience or by example. Now that apes and monkeys are be-

ing bred frequently in zoological gardens, this psychological question may be answered.

To return to the controversy. I had given orders that the public feeding of the snakes should be stopped. That led to a set of violent articles under such headings as 'The Secrets of the Reptile House'. I had convinced myself that when reptiles were kept under healthy conditions they would take dead prey quite readily, or if the keepers took a little trouble in tempting them, and thrive on it. But that was my own conviction, and many authorities disagreed, misled, I think, by some curious semi-mystical prepossession about life. But although I gave orders that live food was not to be given, except in cases for which I had given written authority, and offered to give information about our methods to any responsible persons on condition that they did not publish it, as I had no wish to oppose my judgment to that of my colleagues in other countries, this did not satisfy the controversialists. They wished to be able to say that they had stopped the infamous practices of the London Zoo, and then to carry the campaign further. I made an amusing collection of cuttings, chiefly supplied by them, in which I was described as slippery, evasive, and by other adjectives which in the circumstances were gratifying.

On the other hand, it is a pleasure to acknowledge the constant assistance which we received from the Royal Society for the Prevention of Cruelty to Animals. I soon recognised that it was the anxious wish of their officials to assist us in the proper treatment of animals, and that they were not seekers after advertising publicity. I gave orders that their inspectors were to be admitted at all times, and to be given the fullest opportunity of enquiring into any complaint they received, and at the same time told the society that I should welcome any suggestions they made. Once or twice I had to resist proposals they made which would have made it

appear that we were accepting more than voluntary advice, but these were always dropped.

Accidents sometimes happened at the gardens, and claims for compensation were often difficult, as I always tried to keep them out of court, and did so except in one case which we won. One case bothered me. It was my impression that we had been negligent, legally, as a visitor sitting on a seat had had his leg grazed by the wheel of a cart drawn by a llama. The man wrote to say that he had been kept from his occupation many weeks and was injured for life. The letter was unpleasant and it was clear that the most was going to be made of what was probably a small injury. I wrote asking him to come to see me, and he arrived, very dramatically tottering across the room supported by a stick and the arm of a gaily dressed daughter. We had a short chat, in which I said how sorry I was for his misfortune, but that surely he had been careless himself, and that although I could pay doctor's bills, the Society had to protect itself and might have to raise the question of contributory negligence. But he was having none of that; he was sitting on a fixed seat arranged for visitors and our cart had driven against his leg. He was damaged, and could not go on with his occupation, and we must pay.

'I am glad to see that you look very well; do you mind telling me what your occupation is?'

'I am a buyer of debts.'

'Buyer of debts? I never heard of that.'

'Well, you see, I buy bad debts from the tradesmen round about, and then try to collect them; I tell you it takes a lot of walking and I often get only a shilling or two at a time.' Here was an unpleasant customer, but I thought I saw a way out.

'Excuse me a minute; I must talk to our accountant.' Presently I came back with a receipt form and two bundles of bank notes in a rubber band, one of which I put on the table beside me. We began to talk business. I had the

pleasure to notice that his eyes kept furtively wandering to the bank notes. Presently we got down to a difference of five pounds, and I rose up carelessly flicking the edges of the bundle.

'Well it is perhaps better that we should both think over it for a day or two; come and see me next week, and you had better talk it over with your lawyer.'

'And pay him a fee? Not me. I'll settle now.'

'Just as you like, but I am not hurrying you.'

The visible bundle was paid, and the receipt in full discharge was signed.

It is odd, in thinking over thirty years of daily interviews, most of them with normal people, explorers, naturalists, scientific men and women, business and professional people, how the fantastic things rise up into memory. Some of the strangest were with persons who had a kink of curiosity about the grosser details of animal reproduction. One of these, a person of lofty position, was curious about the rhinoceros, and when I had given him the information, called to his attendant:

'Remind me of that when I am dull.'

Another, this time English, wished to become a temporary amateur keeper. I told him that it did not work to have amateurs and paid keepers in association. He pressed, and then rather confusedly told me the sad story that his wife had complained of his marital frigidity, and on the advice of a lady doctor (so his tale went) he wished to become a keeper, in the hope that association with healthy animals would restore him to health.

A lady came to see me and said:

'I am going to my country house for the summer, and I can't bear to think of all the poor slum children left in London. I wish to send a few hundreds of them to the Zoo, and have come for tickets.'

'That is very kind of you; generally excursion tickets

have to be used all on the same day, but in a special case like this I'll have them marked to be used on any week-day, and charge only the excursion rate.'

'Charge? You want me to pay? But that is monstrous; don't you understand it is for poor children.'

'Yes, but I thought you wished to give them a treat.'

And she flounced out of the room.

Council meetings for the first few years of my tenure were a little difficult. With the exception to which I have referred, they were all personally friendly, but the fact remained that I had been elected against the wishes of the majority. The majority, moreover, contained a group of able and enthusiastic persons whose chief interest was systematic zoology, and who had been accustomed to have the funds of the Society spent rather liberally on that, to the detriment, in the opinion of the reformers, of the interests of the gardens and also, in my opinion, to the detriment of the wider interests of zoology. No doubt I was more persistent than tactful, and there were breezes from time to time. One of the worst blew up when the late Lord Cromer was in the chair. A large memoir containing the results of a very important collecting expedition and requiring costly illustrations was ready for publication, and a circular had been issued announcing that it had been decided to publish it in the *Transactions* of the Zoological Society. There was no stricter regulation of the Society than that memoirs to be published by it must be submitted to the Publication Committee; I called attention to the wording of the circular and to the serious breach of the rules of the Society by the members of Council responsible for it. The leading systematic zoologist made a suave reply, insisting on the scientific importance of the work, which was not in dispute, and saying that the whole matter was trivial, as the memoir would certainly be accepted. Lord Cromer, who was in the chair, at once said:

'I suppose we are all agreed that no further notice need be taken of this matter,' and at once everyone called out 'Agreed'. But I rose and said:

'I am sorry, but I cannot accept that, and I shall be forced to take a serious step.'

Lord Cromer, who was in a testy mood, and who like the other non-scientific members of Council knew nothing of what was at issue, turned on me, saying:

'This is intolerable; I can't have these bullying threats of resignation from a secretary. The Council has decided.'

'But I am not threatening to resign; I act as secretary of the Council, but I am elected by the Fellows and am responsible to them, and I am not going to have the funds of the Society pledged by persons who have no right to pledge them.'

There was a tense and uncomfortable silence, and no one quite knew what to do. Then, to my surprise, Professor E. W. Macbride, a very distinguished zoologist, rose:

'I think that the Council is putting itself in a serious position if it opposes the secretary when he tells us that a rule of the Society, which he thinks of great importance, has been broken. I think that we ought to reconsider our vote.'

There was another brief silence and then I said:

'If the Council will permit me, I can make a suggestion which I think my friends can accept, and I can assure them that if it is accepted I'll do what I can to support the acceptance of the memoir when it comes before the Publication Committee. Will they change the words in the circular from "have decided to publish" to "hope to publish"?'

They accepted, and it was at once resolved unanimously that, the secretary having called the attention of the Council to the circular in question, those responsible for its issue had agreed to change the words 'have decided to publish' to 'hope to publish'. Lord Cromer muttered, 'Fuss about nothing,' but, after the meeting, he came to my room and

asked me what was behind the scene. I explained, and always afterwards he was most considerate, and when he had to take the chair at a meeting, came to see me beforehand to discuss the agenda.

In fact it was not a fuss about nothing, but a decisive trial of strength in which I and my opponents knew very well what we were about. Afterwards, of course, there were often differences of opinion, sometimes sharp, but they were always argued on the merits of the case. The change in the psychological attitude of the Council was valuable, for next year I began a campaign for a step which led to the movement of the Society's offices to the gardens, and the consequent unifying of its work and administration. Soon after I became secretary, I was disturbed about the stability of the old house in Hanover Square, which had been imperfectly altered to bear the huge weight of the library on its first floor. A fire in the adjoining house showed that the party wall was flimsy and the floors insufficiently supported. At the same time I was finding that the geographical separation between the offices and the gardens was detrimental to our scientific and practical interests. In 1908, I proposed a scheme, with the strong support of the president, for selling the freehold of the offices in Hanover Square and with the proceeds constructing new offices, library and meeting-room at the gardens, as well as carrying out a number of improvements there. There was a violent campaign of opposition, some of it merely obstructive, some based on concern lest the removal to Regent's Park should damage our scientific interests. I found it advisable to explain the details to a semi-private meeting of the scientific Fellows and of those who were in the habit of coming to the scientific meetings, and afterwards the Council called a general meeting of the whole body of Fellows. The scheme was adopted, but if there had been the old kind of unreasoned opposition inside the Council, I do not think that it could have been

carried. In fact, the scientific meetings were more successful in their new home than they had ever been, and, in addition to the greater ease of effective administration, the gardens gained by being brought in contact with scientific aims. The Society ceased to be a body of systematic zoologists which happened to derive its chief income from keeping a Zoo to which it gave a lordly and superficial attention. It set out on the path which will make it one of the most useful scientific institutions in the world, making a large contribution not only to anatomy and systematic zoology, but to hygiene, comparative pathology, physiology and psychology.

There are many who, like me, have been driven to the belief that the hope of preserving civilisation is the replacement of the capitalistic system by an organisation of society in which money is neither the reward of work nor its chief incentive. To us it is encouraging to recognise how much voluntary effort, time and thought are given by persons from no other motive than the pleasure of helping objects they think good. I take an example of which I know more than anyone else, the work of the Council of the Zoological Society of London from 1903 to 1935. These strenuous years were made more strenuous by the social disturbance and financial and general anxieties of the Great War, and later by the difficulties of the financial crisis in the thirties. Take the material side first. The Society is a body which is self-supporting; it has to earn its income by attracting and maintaining the interest of its Fellows and of the public who pay gate-money. In 1903 its annual income hovered precariously round about £30,000; and it had no reserves. It has now an annual income of the order of £150,000 and has comfortable liquid reserves. In 1903, apart from the secretary, there was on the staff only one man of scientific training, and he had to work in a laboratory little better than a shed. In 1935 there are six substantially-

paid posts occupied by men of distinction, with medical, veterinary or scientific qualifications, and there are an anatomist and a pathologist working in well-equipped laboratories. In 1903, the gardens had fallen into disrepute because of the conditions under which the animals lived. The Society is now an acknowledged leader of the proper management of animals in captivity, and many of its new buildings and new arrangements are used as models throughout the world. Now all this has been accomplished by a Council of whom only one member is paid. And it has been possible only by the voluntary and devoted work of the unpaid members, in accepting responsibility, giving time and thought and advice based on experience and wisdom.

I shall not write about gifts of money and of animals, as I know that the donors would not welcome thanks. Nor, as I cannot write of every member, shall I say anything individually of members of relative leisure to whom the care of animals and the advancement of zoological knowledge was a diversion, although we gained much from them. But something I must say about the busy men, from personal gratitude and in support of my general proposition. First comes the Duke of Bedford, President of the Society before my time of office, all through it, and still unswerving in service to the Society. He was a wise counsellor in all the routine affairs, and the leader in every emergency. I have never known a man more conscious of the obligations of a great position, or more conscientious and self-sacrificing in fulfilling them. Sometimes I flattered myself on having an enterprising disposition; there was nothing new, whether suggested by himself or by others, that dismayed the president, either by its inherent difficulties or by the opposition it might encounter, provided he assured himself that it was to the advantage of the Society. Then, there was Lord Grey of Fallodon, one of the simplest and least pretentious of men who have adorned high positions and shouldered responsi-

bilities that would have crushed most, or inflated them into turkey-cocks. He contrived to come to almost every Council meeting and to most committees, always as keen and as well-informed on the business in hand as if it were some high affair of State. One of my most touching memories is that of a last visit to Fallodon. He was then almost completely blind, but when, in his usual routine, we went to the duck-pond after dinner, and the ducks came swarming to be fed, coming up to his feet, perching on his knees or on his shoulders, he knew every species, and some of the individuals, by their voices and their modes of approach. Next day, he took us for a long drive round his beloved country, and although he himself could see nothing, stopped the driver at every viewpoint and described exactly what was to be seen. The list is too long to name everyone. Men like the late Lord Cromer, the late Lord Harcourt, Lord Onslow, Lord Moyne, Lord Rothschild, city men like Cecil Baring, and Albert Pam (now, I am glad to say, Treasurer of the Society), surgeons like Sir John Bland-Sutton, men of affairs like Sir Walter Lawrence and Sir Henry Macmahon, all found time to help us by their special knowledge and varied experience.

Equally conspicuous examples of voluntary labour came from professional zoologists, members of museum staffs, and professors, none of whom receives a large salary, and all of whom are more than fully engaged with their professional duties and with unpaid research. Dr. Albert Günther, Dr. Henry Woodward and Sir Arthur Smith Woodward, who knew the Society in its older days, worked untiringly to bridge the gap between the old and the new. Later on Sir Sidney Harmer, Professor J. P. Hill and Professor Macbride were invaluable in stimulating and guiding the scientific side of the Society. But I shall mention last my very distinguished friend, Sir Grafton Elliot Smith, who paid me the highest compliment I have ever received.

He served untiringly on the Council for several years and then wrote asking to be excused. 'I feel', he said, 'that I am wasting time I cannot spare, for as long as you are secretary there is nothing for me to do, except to approve. But if ever you have need, count on me!'

Chapter XII

U.S.A.
1907

*

Andrew Carnegie was born in a cottage in Dunfermline near my grandfather's manse, and although his people were dissenters, he had inherited a respect for the minister of the Abbey. Accordingly when in 1906 he sent to England to invite guests to attend the opening ceremony of the great museum he had built and endowed at Pittsburgh, I was invited as a native of Dunfermline and as a representative of zoology. Very gladly I accepted the offer, which included the return journey from London to Pittsburgh with a stay in New York and the chance of visiting such other American cities as we might wish to see. I arranged my trip to cover Philadelphia, Washington, Harrisburg, Pittsburgh, Buffalo (for Niagara), Ithaca (for Cornell University, in which I was to lecture), and back to New York.

In March 1907, when the party set out, the weather was unkind, keeping most of the passengers in their rooms after the Cunarder had left Cork and was facing the Atlantic. But the fashionable specific against sea-sickness of the time, and the amazing light and colours (white foam turning into green bubbles as the roll of the ship forced it into the blue waves), kept me happy by day. After dark there was poker in the smoking-room. On the first evening there was a mild attempt by those who had invited me to join, to raise the game, but I declined to play except for low stakes, and the others acquiesced. Nor was I lured when two of the players began to make heavy side bets, exchang-

ing rolls of bills. Next morning the purser warned me solemnly against the company I was keeping, saying darkly that he could not tell me all he knew, but that I was a fool to play with them. However, even if the purser were right, there was no harm; my feathers were not worth plucking; and we continued to play nightly for the rest of the trip—I may have lost or won a few shillings. We talked more than we played; they were amusing and well-informed. It may be part of the stock-in-trade of professional players to be well-mannered, but I could not wish for better companions.

About the third day, the Rev. E. S. Roberts, Master of Gonville and Caius, and Vice-Chancellor of Cambridge, appeared, and we did our constitutionals round the deck together. He was an amiable, formal man, and we both made efforts to find something to talk about, but when we had exhausted the prospects of the trip to Pittsburgh and the differences between Oxford and Cambridge, not much common ground was left. But at Pittsburgh I lost caste with him. He had opened one of the chief celebrations with prayer, and meeting him afterwards, I congratulated him on the beauty and appropriateness of the language, supposing it to have been an effort of his own.

'Don't you know', he said, 'that is our Bidding Prayer?' and turned away rather stiffly.

About the fourth day William Archer appeared again. I had seen him for a few minutes on the first afternoon and rejoiced in the belief that he was going to Pittsburgh and that I should have an old friend on the trip. But he was going only to New York to attend a conference on spelling reform, although fortunately, not having booked rooms, he agreed to come to the Belmont Hotel for which our party was bound. He was indignant when I condoled with him on his seclusion in his cabin.

'I am never ill,' he said, 'but I hate the sea. I always choose a cabin below water level, where I can't see the

waves rising and falling. I lie and read, and have some food brought me.'

Archer, tall, gaunt with a high-boned face, rather like that of Bonar Law, was the salt of the earth. He was ascetic in his habits, neither smoking nor taking alcohol, living chiefly on tea, cocoa and buns, but delighting in the company of those who ate and drank. The last time I had seen him was at a gay supper-party at William Heinemann's where he was as merry on toast and tea as the rest of us on caviare and champagne. He was a kind of Presbyterian rationalist, with the stiff personal code of the one and the iconoclasm of the other. But all his intolerance was for himself; nothing was more alien to his mind than to impute motives; many he judged to be stupid, but he preferred to think that every opinion was held honestly. Towards the end of his life, he wrote something about dreams or telepathy which Ray Lankester thought unworthy of a rationalist. Ray, who would have pursued any lost sheep to turn it into mutton, attacked him almost venomously. Archer came to me about it, bewildered. I told him not to bother; Ray was of the order of Torquemada and would burn opinions lest they might mislead innocent minds. And as for me, I thought that a little burning would be an excellent thing for these opinions of his!

'Well,' he replied, with his twisted little smile, 'if there were real Torquemadas about, I don't think that Ray or you or I would last very long!'

Archer was a kind critic to young authors, and many poets and novelists got their first good notice from him. Amongst these was Bernard Shaw, and it was by Archer's influence that he was put on the reviewing staff of the *Pall Mall Gazette*. From the beginning of his dramatic career he was defended, praised and encouraged by Archer. Archer, moreover, was the real introducer of Ibsen to Great Britain. Edmund Gosse had written notices of Ibsen's

work from the early 'seventies, but in 1890 and 1891 Archer's five volumes of translations of Ibsen's plays appeared, and it was Archer who in 1889 instigated the first performance of *The Doll's House* in England, and so started the Ibsen controversy and led to the production of the most brilliant pamphlet in the English language, Shaw's *Quintessence of Ibsenism* (1891).

In New York Archer took me to a number of plays, through most of which he slept, as he told me his habit was. But he made an exception in favour of an afternoon performance of *Mrs. Warren's Profession*, played to an audience in which Archer and I seemed the only males, by actors with strong American accents. Archer told me that his private tragedy was that his ambition had always been to be a successful playwright, and that the only play of his ever produced had been a failure. It is pleasant to remember that *The Green Goddess* brought him success and money. But success did not change his habits. He still took odd meals of cocoa and buns at the Reform Club.

Off Ellis Island the State officials came on board and we were marshalled in the saloon to have our credentials examined. Everything had been made easy for the Carnegie party, and after the briefest glance at our passports the official stood up, shook us by the hand and welcomed us to the United States in the name of his Government. After a long wait, we reached the river, and an army of Lilliputian tugs, their bows protected by buffers of rope, butted the Cunarder into its berth. Government hospitality still favoured us, and we and our baggage were hurried to the 'buses which the hotel had sent for us. But when we were settled in our seats, there was no William Archer! I went back to the wharf. There the unprivileged saloon passengers were ranged in a huge semicircle, each with his pile of baggage and a porter. The ends of the arc abutted on the edge of the wharf, and at the landward middle a high official

stood at a table, allotting to each passenger, as his turn came, a minor inspector. And there was William Archer, bleak, cold, and resigned, at the furthest end. I went up to the chief inspector:

'Excuse me, but can you have my friend down at the end there attended to? We are all waiting for him, and it looks as if we'll have to wait a long time.'

'He'll have to wait his turn.'

'Excuse me, but are you really going to keep the guests of your Government waiting, because one of them, a very distinguished man, is absent-minded?'

Then with a kind of angry grunt he pointed out Archer to one of the inspectors.

'Pass that gentleman and his baggage.'

With a grin he turned to me:

'Is this your first visit to New York?'

'Yes; my first visit.'

'Well, mister, with practice, you'll do.'

Archer settled in the bus with me, and then asked how I had managed.

'I told the customs man that you were the last of our party and that we must not be kept waiting.'

'But, I say, that wasn't fair; I ought to have waited my turn!'

I believe he had some thought of going back, but I retorted:

'It wasn't fair to us to be kept waiting.'

However his conscience was eased that evening, for when Carnegie's representative came to welcome us, I explained to him his fortunate chance of adding Archer to the Pittsburgh party, which was done at once.

A week in New York passed quickly, for in those days there was much to surprise a Londoner. There was the welcome to the clubs, many of which sent cards of temporary membership. I visited the Harvard, decorated and

furnished in heavy oak, with ingle-nooks and every expensive discomfort, the Union with its air of silk-hatted formality, and the Century, a blend of the Athenaeum and the Savile, where 'foreigners' (in New York, in those days, one had to grow accustomed to be called a foreigner) had a real welcome and were speedily taken into the inner circles. The huge stores, in which you were expected to wander at will, were new to us in their spacious comprehensiveness. But the great hotels were the most surprising, as the modern hotel age had hardly begun in London. Downstairs on the entrance floor all was noise and bustle, an endless procession of bell-boys calling out the names of guests, noisy parties at every group of armchairs, all as public as a fair. Express lifts or stopping lifts carried you down to floor below floor, carved out of the solid rock, or shot you up to the high heavens. Once in your room there was what was to us unknown luxury: a spacious room with writing-desk, armchairs, and fresh iced water brought automatically every hour; a bathroom full of gadgets; a wardrobe room heated and lighted. On every floor in the corridor opposite the lift a young lady, whose sole duty seemed to be to act as private secretary to the guests, sat at a desk. There was nothing my 'fourth-floor clerk' failed to do with charm and efficiency; she made appointments for me, reserved seats in trains, received and sent messages, advised me about shops, warded off Pressmen, explained how to get to places.

But best of all was to throw open the large windows and lean out to the exciting air of New York. Far down below the black streams of men and vehicles crawled and groaned in almost a London murk. Up between the towering architecture, sea-gulls circled, and the hoots of sirens came from the sea. To the south there was a glimpse of the open bay, and a tang of salt air quickened breathing and circulation. By night the strident street-signs (new to us) fused into

pools and streams of coloured light; the symmetrical shining windows of the tall buildings were part of the design, decorations rather than utilities, and, high above, the stars shone. 'Sky-scrapers' needed no apology; like the tall saints of El Greco they were aspirations.

My first scientific visit was to the American Museum of Natural History, where the grouping of sets of animals in appropriate panoramic settings was making a departure in museum display. Each case was a glass-fronted enclosure lighted from above and seen from a darker corridor, with a painted background merging into carefully modelled foreground. A set of laboratories and workshops down below contained all the materials for modelling foliage and flowers as accurate and as beautiful as the work for most costly milliners' models. In the department in which the bodies of animals were being prepared to take their places in the family groups, the whole process was explained. A steel framework, representing the posture desired, was prepared and covered with a plastic material on which, under the direction of an anatomist, the superficial muscles were modelled exactly in the required positions of contraction or relaxation. On the top of that the softened skin was drawn and carefully combed and pressed into its place. Even the eyes were shaped and coloured from living models, Later on, when we were designing the new reptile house at the London Zoo, we adopted the same scheme for the larger dens, with the difference that live creatures have tiresome and unhygienic habits which made necessary a good many modifications in the decoration. Nor can they be relied on not to eat artificial plants to their own detriment. When the new aquarium at the Zoo was nearly ready, the absence of established sea-weeds made the rocks look bare. Our colleague, the late Miss Joan Procter, who was as clever with her fingers as with her brain, got some sheets of thin coloured rubber out of which she made accurate models of

sea-weeds. A few days afterwards Ray Lankester was being shown round the aquarium by Mr. E. G. Boulenger, the director. Gazing with delight at the fishes swimming in and out of the weeds, he said:

'But you know, my dear boy, these sea-weeds will never live,' and then in a hoarse confidential whisper:

'You should fake some.'

In fact the fishes nibbled these rubber weeds, and as soon as real weeds were established we gave up the use of the artificial ones.

Following a custom I had found useful, my first visit to the great zoological park at Bronx was made as a private visitor, so that when I paid professional visits I knew what details I wished to get from the authorities. Henry Fairfield Osborn, President of the Society, then in the prime of life, tall, handsome, a professional zoologist and geologist of wide celebrity because of his explorations for vertebrate fossils in the Western States, but with still before him his great Asiatic expeditions; Madison Grant, Treasurer of the Society, American aristocrat, business man and sportsman-naturalist; Hornaday, Director of the Park, taxidermist, camper, explorer, and almost the first American to perceive the imminent danger to all wild life from sport, commercial exploitation and apathy, and soon to be the greatest force in the States for the protection of fauna; these three were more than kind and helpful, and I learned much from them of great use in London.

The Bronx Park was due to the combined efforts of a scientific society, private benefactors and the munificence of a great city. The city had provided the site, had given nearly two million dollars for buildings, had promised a further annual donation for a number of years and contributed about £30,000 a year for maintenance. Private benefactions on a large scale were devoted partly to buildings and partly to scientific work, and the revenue from mem-

bers of the society, from gate-money, from the sale of refreshments and so forth could be spent on scientific work, publications and purchase of animals. At that time the total income of the London Zoological Society from all sources was round about £30,000 a year, and the area of the gardens was about 34 acres as compared with 270 acres at Bronx. The Bronx Park was a new institution in which the mistakes of older institutions could be avoided, and where there was abundant space for large herds of such animals as could live in the open air, and for sumptuous buildings. The houses, however, surprised me and reminded me of what Henry James had said of other American houses; they seemed to be trying to look as expensive as they knew how. They were not very large, for the most part not larger than the corresponding London houses, but were built in a classic style of buff brick, limestone and granite, with elaborate stone carvings by distinguished sculptors. They were the exact opposite of my own ideal of houses suitable for animals, which should be of the simplest and least costly kind, so that they can be destroyed ruthlessly and replaced as knowledge of suitable conditions improves. It seemed to me the more to be regretted, as, unlike London, construction in New York was not hampered by cast-iron Building Acts. But the authorities explained that those who paid the piper called the tune, and New York City and private donors had their own ideas of what style of architecture was suitable. But apart from many ingenious and admirable details of management and housing, the Bronx Park laid in my mind the germ of an idea which afterwards grew into Whipsnade. And a visit to the splendid aquarium at Battery Point, also managed by the Zoological Society of New York, made me resolve that somehow or other there should be an aquarium in London.

In New York I was a guest at two public banquets at each of which, in contrast with the London habit, ladies

were present, and in consequence, as I was told, no alcoholic liquors were served. Even if lubricated by wine, a long public dinner with innumerable speeches may be a tedious affair. The speeches were innumerable and began with the fish, were intercalated between all the courses, and were added to because the chairman made a separate speech to introduce each speaker, and a subsequent speech to thank each speaker and explain to the audience what he supposed the speaker to have tried to say. But at one of the banquets it was a sufficient reward to have seen and heard William Jennings Bryan, then famous even in Europe for his bimetallic campaign with its slogan, 'America crucified on a cross of gold.' We were all bored almost beyond endurance, when there arose a tall heavy-jowled man, not in the customary evening dress, but in a loosely fitting shiny black frock-coat, rather like the garb of a Scotch elder, and with the general appearance of a low-comedy actor. But in a few seconds we were all enchanted. The topic was peace, and I suppose what he actually said may have been the rather simple rhetoric in which, before the Great War, optimistic idealists spoke about peace. But it was an organ-voice with a direct physical appeal to all the emotions, rising and falling from plaintiveness to a rolling exuberance of hope. Pity, scorn and promise; all the stops out.

Two private dinner-parties in Carnegie's New York palace, for it could hardly be called a house, were served with all the luxuries of both hemispheres in food, wine, and service. After one of these our host led us through a set of gilded and tapestried rooms until we came to a salon in which armchairs were arranged in a semicircle facing a reading-desk. Mr. Carnegie asked us to sit down, and then said:

'Here we are, a set of distinguished and successful men. Could there be any more instructive way of passing the evening than for each of us in turn to tell us the story of his life?'

We looked at one another uneasily; we were interested in our cigars, in the new glasses of brandy that had been handed round, and in a hope that the 'terrapin Maryland' and other rich dishes would be as pleasant in the stomach as they had been on the palate. Carnegie added, brightly:

'Now which of you will break the ice? I see none of you cares to begin. Let me set an example.'

We sighed relief as he stepped to the desk, produced a bundle of sheets from below it, and for at least an hour and a half read to us the story of his own life.

From New York we went to Philadelphia, and were at once in an atmosphere more definitely American than in cosmopolitan New York. And, amongst all the new bustle and tall buildings, there was one of the world's historical monuments, so quiet and so lovely in its eighteenth-century simplicity, that one felt homesick for England. It was Independence Hall where George Washington was chosen commander-in-chief of the Continental Army on June 15, 1775, and where the Declaration of Independence was adopted on the 4th of July, 1776. And there also was Liberty Bell with its proud inscription, 'Proclaim Liberty through all the land unto all the inhabitants thereof.' Well, we of Great Britain may be proud that they were scions of our own race who proclaimed that high doctrine, and perhaps also we may be proud that we, in our own time, and in our own way, have carried the doctrine of liberty even further.

I was at home in the zoological gardens in Philadelphia, which had been modelled on our own gardens in Regent's Park. They had nearly the same area, and the familiar animals were housed in familiar ways, but as the total collection was smaller, room had been found for a few large paddocks, in one of which there was a magnificent herd of bison. The reptile house was far in advance of our old house in London, especially in the ingenious devices by

which the interiors of the cages were arranged so as to form natural homes for the different habits of the inmates. But the greatest advance was in the management of monkeys. Although the temperature in Philadelphia had a greater range, with swifter changes from cold to heat or from heat to cold than in London, the director, Dr. Erwin Brown, had found by experience that a constant warm temperature was unfavourable to monkeys of all kinds. Although the monkey house had artificial heating, the temperature was allowed to fall at night, sometimes in winter down to below forty degrees Fahr. He had put in practice what I had been urging, against opinion and tradition in London, that a nightly fall and occasional variations at other times provided a necessary stimulus to the lungs and skin. But there was a further advance. Dr. Dixon, Chief of the Pennsylvania State Department of Public Health, a member of the governing body of the Zoological Society, and afterwards the author of what is still the best treatise on the diseases of animals in captivity, had found that tuberculosis had been the chief cause of death among the monkeys, as in other zoological gardens. He traced it to infection from new arrivals, not to the conditions in the gardens, and had instituted a system of quarantine for all new arrivals. These were segregated, their temperatures taken night and morning, and only those which proved to be free after some weeks were passed into the gardens. He had discovered, as we confirmed later in London when I began the same system of quarantine, that tuberculin injections for diagnostic purposes failed in the case of lemurs and were of doubtful interpretation in the case of monkeys and apes. He told me of one curious experience. The temperature sheets showed that with unfailing regularity there was a rise on Friday evenings. After exhausting every apparently possible difference between Fridays and other days, he found the significant factor. Friday was the holiday of the regular keeper,

who knew how to handle monkeys, and the various substitutes who took the temperatures upset the excitable animals so that they showed an immediate rise.

At that time there was an epidemic of typhoid in the State of Pennsylvania, and still comparatively little was known as to how it spread. Dr. Dixon took me to his offices in the Department of Public Health and showed me, covering the side of his largest room, a map of the State many yards wide and high. On this, day by day, hour by hour, a little flag was put marking the site of each new case as it was telephoned to the office. The distribution of the flags showed that the hostile army of disease was advancing down the river systems. A few days later I was a guest at a scientific meeting in the Cosmos Club in Washington, and there the chief paper was on the modes of distribution of typhoid. There had been a set of sporadic outbreaks widely scattered through the States, the focus of each being a well-to-do family. By a process of exhaustion, the common factor was found to be an Irish cook who had been in succession in each of the families. It was the first authentically established case, I believe, of a typhoid 'carrier', an individual infected with the disease, but not herself suffering any inconvenience from it. It was a new problem in ethics and legality; the woman was a public danger, but was guilty of no crime known to law. It was solved quietly and drastically, I was told, by the kidnapping and compulsory but pleasant segregation of the innocent 'carrier'.

In the hotel at Philadelphia W. T. Stead and his wife, who also were going to Pittsburgh, arrived one morning. They came across the lounge to where we were sitting at the far end, Stead almost at a run, stooping forwards, his beard untidy, his strange blue eyes making a rather commonplace face more than striking; Mrs. Stead ambling behind with a motherly, humorous smile as of one affectionately and protectively tolerant of anything her husband might do.

After shaking hands, she gave Stead a piece of cardboard about a foot square, with a ribbon arranged as if it were to be hung on a wall, like a text in a cottage bedroom, and then went off to the lift. Stead settled himself in an arm-chair and hung the placard round his neck. There was printed on it:

W. T. STEAD
London, England.

'What on earth?' I began to say.

'The Press will be seeking me; the reporters don't know me by sight, and I like to save them trouble.'

The Press was there, and did wish to see him. As soon as the placard had been noticed, young men seemed to spring up from every part of the hall and came running across to Stead. I left him to them. The Steads were our companions from Philadelphia to Washington, and on to Harrisburg and Pittsburgh, and afterwards for two or three days in New York. Never can there have been a kinder-hearted, more unselfish man than the great English journalist, nor one who at all times was more alert to do some good turn in a great matter or a small matter to those about him. Without doubt five years later, up to the last moment when the lights of the *Titanic* went out and the ship made its final plunge into the depths, Stead, probably with his favourite glass of stout in his hand, was comforting and consoling those around him.

From Philadelphia to Washington there was a quick run in one of the fastest trains in the world. If this were a guide-book, it would be a pleasure to write a description of the stage in which that amazing town then was. The plan had been laid out on paper and imposed on a tumble-down old city, irrespective of the existing buildings. Any of the long vistas leading to the White House or to the Capitol might be interrupted at any point by an irrelevant block of shanties. The long avenues of private houses were like what we

now call a garden city, each villa in its unfenced area of lawn and trees. A comfortable city, with little of the hard bustle of New York, and with a kind of easy inefficiency even in the best hotels and clubs. Negroes everywhere, smiling, well-mannered and casual. The hot-water taps in the bathrooms were as likely to run red mud as hot water; the service was sweet in words, limping in results. A city of the South, soothing if you weren't in a hurry.

My first visit was to the Smithsonian Institution and the National Museum, many large blocks set in trees on a high ridge. At the Smithsonian I had to see C. D. Walcott, the distinguished geologist who had just been appointed secretary, the executive head of that great institution. My business was the affairs of the *Zoological Record*, and the *International Catalogue of Scientific Literature*, and I found him more than helpful and sympathetic with regard to the American share in the compilation of materials for these. The National Museum was like the British Natural History Museum in the vast size of its collections and the scientific work being done by specialists behind the scenes, and in its smaller effort merely to interest the general public. But the specialists had an advantage not yet attained in London; as a matter of routine they spent a part of each year collecting and observing in the field, and were thus professionally field-naturalists in addition to being museum experts. The leading man was Hart Merriam, then known in England only to a few specialists and not liked by all of these, because of the vast number of subspecies and local races to which he was giving scientific names. But his new names were based on a minute study of living things in their own homes, an intensive exploration of geographical distribution. He was a pioneer in what is now called ecology, the study of living creatures in their own homes. It was a delight to make the acquaintance of that gentle, modest man who was one of the greatest naturalists the

United States has produced. It amused and saddened me two days later to find that Roosevelt thought little of him except as a tiresome meddler with names, and sang the praises of one of the loud-voiced popular lecturers on wild life.

Next day Hart Merriam took me to the National Zoological Park and afterwards entertained me at his house, where he showed me a collection of Indian basket-work which he had been making for years. It was as nearly complete as was possible, for many tribes had become extinct, and it showed that every tribe had its characteristic mode of weaving and decoration, and that a study of the basket-work gave clues to the affinities of the tribes, just as a study of the relationships of parasites gives a clue to the relationships of their hosts.

The Washington Park is a Government institution, financed by a vote given to the Smithsonian Institution, and, in 1907, admission was free. A few animals were purchased, but most of the fine collection came as official gifts from foreign potentates, private persons, and consular officials in foreign parts. The site lay about three miles from the centre of the city and extended to about 165 acres, traversed by a deep gorge through which ran a tributary of the Potomac. Its deep valleys, shining river, rocks and woodland made a scene of great natural beauty which was enhanced by the presence of some of the native creatures, amongst which I noticed musk-rats, grey squirrels, crested cardinals and turkey buzzards. The chief celebrity among the captive animals was a splendid bull bison, the original of the bison on the ten-dollar bill. Hart Merriam was at home among all the creatures, and a condor, which he had presented, came down from its high perch to his call. There was a fine collection of bears, including an Alaskan brown bear, a subspecies which Merriam had identified and named. It was not yet full-grown but weighed nearly 1000

lbs. and represented the largest living carnivorous species. A new house for small mammals had just been completed, and to my great interest had been constructed on the aquarium plan, with darkened passages for visitors and full light on the animals so that they could be seen well illuminated against dark backgrounds. There were arrangements for artificial heat of a temporary nature, for it was the intention of the management to build a central heating station for all the houses. I had experience of the vicissitudes of the Washington climate, for on the afternoon of an early April day I had tea in a garden in the bland air of an English summer, and the next morning Washington was snowed up, even the tramcars being unable to run.

As I wished to see President Roosevelt, I called on our Ambassador, then Mr. Bryce, to whom his brother at the Savile Club had given me an introduction. Bryce received me in the friendliest way, and after asking me whether I merely wished to see the great man, or had any special business, said he would arrange an appointment. Then he added:

'But I must warn you; the President will be seated in an armchair at the far end of the room; he will come forward to shake hands and will then lead you to a chair facing him. He will begin to talk, and as he talks, he will gradually pull up his chair closer to you, and you will automatically push yours a little back along the parquet floor, and this will go on until you have backed, he following you, right up to the entrance door. Then he'll spring up, shake you warmly by the hand, telling you what an interesting conversation he has had, and before you know anything more, you will be out again in the lobby with the Press men asking if you have a 'story'. And then you'll remember what you meant to ask!'

And so it almost happened. At the appointed hour I

entered the President's room, and he came forward, shook me by the hand, led me up to a chair facing his chair, and put me in it. For perhaps half a minute we talked of the new Carnegie Museum, of British and American naturalists and so forth. Then he got going, gesticulating, displaying his formidable dentition, looking almost a caricature of the familiar caricatures of him, radiating his exuberant vitality, but all the time hitching his chair closer to mine, until, to prevent our knees touching, I in turn pushed back a little. He was talking, so far as I remember, about the family as the unit of the nation and the need of large families, when I suddenly thought of the Ambassador's warning, and found myself more than half-way across the room. I interrupted:

'Mr. President, I'd like to listen to you until I have to go back to Europe, but you are the one man in the world who can do something for me.'

'What's that, doctor?'

He sat up. The progression of the chairs stopped and I made my request, which was for permission, if it could be arranged, to have some prong-horn antelopes from the National Park for the London Zoo. He got up, sent for young James Garfield, whom he had just made his Secretary for the Interior, and chatted about natural history until Garfield, a tall young man, arrived.

'James, this is my friend, Dr. Mitchell of the London Zoo. Take him away, fix up for him what he wants, and bring him back to lunch.'

It was a pleasure when I called on Mr. Bryce before leaving Washington to tell him of the success of his warning.

I saw Roosevelt only twice afterwards, when he had ceased to be President and was passing through London, before and after his African trip. On his way out, he sent a message to me at the Zoo, saying that he was coming in a few minutes. In accordance with our routine for distin-

guished visitors, I hurriedly had placed at the various more popular shows keepers with food for the animals, and then met him at the main gate. He jumped out in holiday mood:

'Glad to see you again, doctor, but I have only an hour. Now I don't have time to see anything except your rare beasts, the beasts that will interest you and me as zoologists.'

I arranged a new programme swiftly. But on our way to the great apes his eye gazed wistfully at the sea-lions who were gazing wistfully at the keeper, standing with an unexpected tin of fish. We fed the sea-lions, we gave grapes to the apes, we passed through the lion house, where I was able to tell him a zoological curiosity. The lions seldom take any notice of visitors passing through their house, but on two occasions, when I was taking round a party of Nigerian chiefs in their white robes, the lions got into a fury of excitement and would have torn down the bars had they been able. In the reptile house the President stroked the big South American frog to make it bark, and had the tame python twined round his neck. We gave biscuits to the elephants, and sponge cake to the giraffes—and the time was up.

'Well, doctor, very many thanks for a most instructive morning.'

On his return from Africa, a number of sportsmen and naturalists invited him to luncheon, after which he gave us a description of a native lion-hunt so vivid that over the tables of the Savoy restaurant we saw the leaping circle of natives, the flashing of their spears and the charges of the lion at bay. I know nothing of Theodore Roosevelt as President of the United States; but he was a great personality, a born leader of men, and a man who lived every moment of his own life.

At Pittsburgh the various members of the party were the guests at different private houses. There was so full a cere-

monial programme that there was little time to see the sights. But to my surprise Pittsburgh was a beautiful city in a queer smoke-laden way. William Archer and I were taken up one evening to Fort Pitt, an old outpost against the Indians, on a bluff overlooking the town where the three gorges of the Ohio, the Monongahela and Allegheny, each with a line of several miles of glowing forges, made a sight impossible to forget.

As in most celebrations, the details were over-elaborate and a little wearisome. Very surprisingly to those of us who had believed in American efficiency, they were badly organised, with an infinitude of overlapping and weary waiting. One or two incidents keep in my memory, as Stead was engaged in each of them. Stead himself gave a lecture on the international situation and peace; he had lately returned from interviewing most of the crowned heads and political magnates of Europe. In a few minutes he excited what had seemed a stolid audience, and when at the close he appealed for funds for the peace campaign, he stood smiling, with his arms folded, whilst a hail of coins, crumpled notes and cheques was hurled at him. There was nothing highbrow about Stead; if a brass band or a banjo would have served his purpose, he would have used them. Next morning I was booked to give a scientific address, but, as was always happening, a change had been made in the programme, and some big functions had been put earlier, so that they were to be given at the same hour. I was standing rather uncomfortably near the platform waiting for the absent chairman and not knowing what to do, when suddenly Stead arrived with a set of friends he had collected.

'I was sure there would be a muddle,' he said, 'and so I came along to help.' He made himself chairman, precisely as if it had been arranged, and all went well. It was pure kindness; he had no interest in science and certainly would have preferred to be where the big noise was. On one of the

last evenings there was a dinner in the banqueting hall, the appointed hour being eight o'clock. From eight until nine we all waited in a wide corridor getting more and more cross and more and more hungry. We heard afterwards that the committee was quarrelling over the allocation of seats. About half past nine a message came out to say that we were to seat ourselves as we pleased. The doors were thrown open, discovering the large hall arranged with a kind of high table, and a number of small round tables. A wild rush began; Stead called to me:

'Make a wedge of our party and push through. I'll go in and secure a table.'

As we pushed through, plump, laughing Mrs. Stead like the football in the middle of the scrum, I could see Stead, leaping over obstacles, crawling under one table and finally standing on a chair at a table he had secured, waving a napkin to us with one hand and warding off intruders with the other.

Moberley Bell, general manager of *The Times*, who had come for the functions, limped and rolled across to me on one of the first mornings:

'Here is our Government as usual playing the fool; it is inconceivable. I am just sending a cable.'

'Why, what is the matter?'

'Matter? It is most important that we should be on good terms with the States, and here at this great function we aren't represented; they will take it as a snub.'

'But', I said, 'there are plenty of us here; the Vice-Chancellor of Cambridge, Sir John Rhys from Oxford, Sir William Preece of the Post-Office, William Archer, Stead and many others.'

He winced for a second at the name of Stead, but went on with the friendliest of smiles:

'And Dr. Chalmers Mitchell from the Zoo! Of course you people are all right, but not one of you has a commis-

sion from the Government. Now Maarten Maartens' (the Dutch writer whose English novels then had a great vogue) 'has a letter from the Dutch Court, there is an official from Sweden, two Court officials from Berlin, and the French Ambassador, I've just heard, is bringing the Grand Cordon of the Legion of Honour for Carnegie! Our Government will never learn!'

At Pittsburgh I was the guest of Dr. W. T. Holland, a wealthy man and a distinguished entomologist, formerly a clergyman, now director of the new museum. After dinner on the last evening, he said to me:

'I have to present all you fellows for degrees at the University to-morrow, and I don't know what to say.'

'All you've got to do is to prepare a pithy sentence about each of us.'

'Well, come and help me.'

'Certainly, I'll help you, and you can put it into Latin.'

'It is English.'

I forget what I made him say about myself or the others, but a phrase about Stead that he was a leading authority on the affairs of this world and the next was successful.

An uncomfortable night journey took us from Pittsburgh to Buffalo, and then by a three miles' drive along a flat plain, where nothing seemed less to be expected than a gigantic fall, we reached Niagara. From a mile off we heard the roar of the water, saw the edge of the falls and of the great ditch which the rapids have cut. It was a grey sky, and the winter air shook down slowly drifting snow-flakes. Probably the ice-bound waters of the lakes were holding back the flow, at any rate the falls, except when floes hesitated on the brink and then plunged over, were not impressive. But the rapids were terrifying in their wild rush. It was too cold for visitors, and when we had seen what we wished, we began to cross the suspension bridge to lunch in Canada. On the other side was a lonely figure.

'Why!' I said, 'that is Larmor of Cambridge' (the mathematician, now Sir Joseph), and, with an air of 'Dr. Livingstone, I presume,' went across to greet him. He shook hands and after a very few words, said:

'You are going that way? I am going this way,' and took it. Livingstone, it is said, thought it unnecessary of Stanley to discover him.

Another dreary journey to Ithaca and then two days at Cornell University on a wide campus with a blue lake and noble trees. There I lectured, saw some old friends, including E. B. Titchener, the professor of psychology, whom I had known at Oxford, signed a document bequeathing my brain, did I die in America, to the Anatomical Museum, and was shown a weird cellar in which hundreds and hundreds of corpses, prepared for dissection, were lying in cold storage in case an expected law restricting the supply of bodies should be passed. A corner in corpses! Quite practical.

Another long night journey back to New York, two days there and then the steamer home, brightened by the presence of Sir Edward Elgar, well groomed, extremely unlike the stock conception of a musician. He was a charming companion, was a connoisseur in pre-prandial cocktails, and had provided himself from Delmonico's with a case of twelve sealed bottles of specially prepared coffee, one to be heated and taken after lunch and dinner on each of the six days of the journey. It was good coffee.

On the steamer I sought for some consistent impression from my three weeks in the States, but found little. Possibly in a strange country one sees the high lights and the low, and imagines differences which do not exist. But it did seem to me that the States were most luxurious for the rich, much less comfortable than England for those with moderate incomes, especially scientific and professional men, and a spirit-breaking nightmare for the poor. It seemed to me a completely unstable civilisation.

Chapter XIII

Chiefly London
1910-1935

*

I am enough of a Londoner to be devoted to Brighton. A short run in a comfortable train, and you are in air which cannot be beaten, miles of promenade on which you can walk in town clothes, piers on the ends of which you are at sea without the risk of sea-sickness, and hotels in which at least until recent times you had more comfort than in most hotels in England. I have stayed in the private house of a wealthy friend, in small hotels, and in the Metropole, which I liked best, with its Victorian air and amazing Victorian library of three-volume novels in the spacious gloom of which it was always possible to find a quiet corner for working. Brighton has some odd memories for me. The Cremation Society, of which I am vice-president, held a two days' congress at Brighton, the chief purpose of which was an effort, afterwards successfully accomplished, to bring into a working agreement with it the cemetery authorities and the undertakers, as there were differences of commercial interest in the disposal of the dead. At a luncheon held to celebrate the agreement, I had on my right a plump, demure gentleman in glossy black. After some talk, he turned out to be the mayor of a manufacturing town not celebrated for its amenities. But he was proud of it, and had much to say of the progressive views of his corporation.

'I am very glad to hear that Lancashire is taking an active interest in cremation, which you will agree is the only hygienic way of disposing of the dead, especially in crowded parts of the country.'

'I am not quite sure', he said, very dubiously.

'Then why are you here?'

'Well, you see, Sir, my wife and I own a small cemetery—a nice little business, about a thousand interments a year.'

I often have had to preside at the annual meetings of the Cremation Society. But newspapers are shy of the subject and it was only once that I got any publicity for my address. George Bernard Shaw was one of the more celebrated members who had joined during the year, and in giving the list I added: 'We shall be happy to cremate Mr. Bernard Shaw at any time.'

Press men have their own idea of what is 'copy'. Not at Brighton but at a neighbouring south coast town I delivered a presidential address to the South-eastern Union of Scientific Societies. The subject was the evolution of the aesthetic sense. I tried to explain that reactions which in ourselves indicated states of pleasure or pain took place in animals of whose emotions we could not judge, and incidentally I referred to the reactions of a lobster to warm water. Next morning, when I was back in London, the representative of a well-known press agency was waiting for me. 'Can you spare me a few minutes about your lecture of last night?' 'Certainly', I said, rather flattered that the press had been attracted by my lecture on the theory of aesthetics. Later in the day, and next day, and for several days in the provincial press, something like the following appeared:

How to Boil a Lobster Painlessly

Dr. Chalmers Mitchell, Secretary of the Zoological Society, addressing a scientific meeting last night, said that the usual mode of killing a lobster by plunging it into boiling water was cruel, and that it should be put in cold water.

Much correspondence followed, and the Royal Society for the Prevention of Cruelty to Animals took up the matter. In fact it is true that if a live lobster be put into cold

water the temperature of which is raised gradually, the creature will make no attempt to escape, and will be irretrievably dead long before the water feels hot to the hand, but if it be plunged into boiling water, it will struggle violently. But how about my brilliant theory of the evolution of the aesthetic sense?

At Brighton one afternoon I saw in a curiosity shop a soapstone Buddha, and strongly against the advice of Heinemann who was with me, I bought it on the way to the station. The result will please the superstitious. Very soon after it was installed in my house, I fell dangerously ill. I did not begin to recover until Magda Heinemann, my most soothing sickbed visitor, pretended to take a fancy to it, and took it away. A few weeks later her married life came to an abrupt end; there was a legal separation followed by a divorce. Then her own possessions, including the Buddha, were stored in a large furniture depository, Maple's I think, which promptly took fire and was burnt to the ground.

But I have a happier memory from Brighton. One Saturday evening, early in 1902, I found Moberley Bell at the Metropole. We had not met since Pittsburgh and we discussed our experiences there. Then in the kindest way he cross-questioned me as to what I was doing and said that he would arrange for me to review scientific books for the *Literary Supplement* of *The Times*. A fortnight later the first book arrived, and thus began a long connexion which has been one of the pleasures and honours of my life. Under Bruce Richmond, the *Literary Supplement* achieved and retained a unique reputation. He never sent out a book save to one he thought competent to deal with it. He exacted a high standard from his contributors, and gave them a free hand.

It ought to be superfluous, but in these days of increasing interplay between the editorial and the business sides of newspapers, I like to record that during a period of over thirty years never once did the editor of the *Literary Sup-*

plement make any suggestion to me as to the mode in which any book was to be treated. That was not wholly the case with the *Saturday Review* under Harris, and once or twice I asked him to entrust a scalping to other hands.

I met Moberley Bell a good many times privately before his death in harness in 1911. He always seemed in bad health and worried, but to me he was invariably a friend. I thought him a big man, swift and decided in judgment and very thorough in action. There was current a diverting legend about him, a caricature based on his masterful character and strong features. In 1890, the legend went, when he was called from Egypt to become manager of *The Times* in London, there was at the same time a Levantine pirate who wished to retire. The pirate kidnapped Moberley Bell and all his papers, scuppered the one and mastered the others, and in due course, perfect in his new personality, appeared at *The Times* office and assumed the duties of his victim.

In 1911, there died an odd, anachronistic type, Henry Scherren by name, a surviving relic of learned Fleet Street hacks. He had been a monk and was a scholar and a naturalist. He had compiled an excellent *Supplement to Cassell's Encyclopædic Dictionary*, had written a history of the London Zoological Gardens and had contributed to the news columns of *The Times* regular notes on new arrivals at the gardens. I was asked to continue his work for *The Times*, and, except during the War, when pressure on space made curtailment necessary, I wrote regular weekly notes and occasional longer articles on Zoo matters, until my resignation from the post of secretary to the Society in 1935. But a position of delicacy quickly arose. Publicity is the breath of life to an institution which gets most of its income from gate-money. I had arranged, with the help of some extremely competent press men, a system for the distribution of Zoo news which worked well, and whilst securing a fair

distribution of information, gave free scope to the talents of individual writers in presenting it to their public. But I was both distributor for the Society and an individual writer. Every newspaper likes 'exclusive' information. Again, with help from my press friends, I devised a scheme which worked to the satisfaction of everyone except one or two amateurs, who thought that the condiments as well as the materials for the dishes emanated from me. Here must come a tribute to my friend the late Leslie Mainland of the *Daily Mail*, a publicist of genius and the most loyal friend. During the War he was a 'conscientious objector'. There were saints amongst these, and others. Leslie Mainland, who was an amateur of the sea, elected to do mine-sweeping. I doubt if even in the trenches there was so constant a sense of imminent peril, or so constant a condition of intense discomfort.

After the War, like many other persons, I was in an unsettled state of mind. The work at the War Office and still more at Crewe House, where Wickham Steed's idealism and vast knowledge of international politics had affected me, and I did not wish to end my days as secretary of the Zoological Society. I was fifty-four years old; then or never was the time to make a break. I was spending alternate weeks in Paris, where I was helping Steed in connexion with the press work of the Peace Conference, and in London, where we were trying to reawaken the affairs of the Zoological Society from their quiescence during the War. I got Steed's most friendly sympathy, and one evening when I was dining alone with Lord Northcliffe in his rooms at the Ritz, I told him what I wished. He said at once that he would put me on the permanent staff of *The Times* on the understanding that if I became a Member of Parliament, as I hoped, that would not interfere with my appointment. The path being smoothed financially, I took the necessary steps. The Council of the Zoological Society, after friendly

and flattering pressure, acquiesced and appointed a committee to find my successor. Through Sir Henry Norman, a friend of many years' standing, I was introduced to the Liberal headquarters and to the late Sir Edward Shortt, then Secretary for Ireland and about to be Home Secretary. There was a fair prospect of my being recommended by the party as one of the Liberal candidates for Newcastle. But two difficulties upset the scheme. The first was psychological. I was already thoroughly troubled by Mr. Lloyd George's attitude towards the peace terms (see page 297), and this feeling was deepened by a masterly private speech he made to prospective candidates. It is almost beyond belief to recall the exuberant emotional state of his entourage at that time. I was a guest at a luncheon party where the lion was an Under-Secretary of State and one of the Prime Minister's intimates. The talk fell on the Kaiser, and was led by the politician in the full 'Hang-the-Kaiser' spirit. I interposed, not in any spirit of justice, but merely on the grounds of probability, and offered to bet one hat that the Kaiser would not be brought to trial within two years, and two hats that if brought to trial in that period or later he would be acquitted. The company declared me a miserable pro-German and the bet was taken, but, so far, I have not received even the first hat to which I was entitled. The German surrender had been too sudden a relief from their fears of 1918, and the Lloyd George group appeared to be suffering from a mass-hysteria very different from the sane anxieties of the continental politicians with whom Wickham Steed had brought me in contact in Paris. I felt that even if my friends succeeded in getting it for me, I should be in an impossible position if I took help from the party funds. And so my political ambitions were dismissed from my mind.

Also there was a difficulty about the Zoological Society. There turned out to be little hope of the Committee and

Council agreeing on a successor, and I did not resist an appeal to withdraw my resignation. I went to see Lord Northcliffe, who was seated in one of the huge and luxurious armchairs which satisfied his catlike need for physical comfort, and explained the position. He was sympathetic and considerate, as indeed I always found him in all my personal relations with him. He agreed that I should go on with my work at the Zoological Society, instead of going in for politics, but as it had not been intended that I should give full time to *The Times*, he wished me to continue the arrangement he had made for my being on the staff. And so began the most fully occupied years of what has been a fully occupied life. Fortunately I am one of those people to whom work in itself is not a burden, and who can switch over from one set of occupations to another almost as if it were a transition from work to play. I had coffee, cigarettes and the newspapers at seven every morning. By nine or thereabouts I had bathed, shaved and dressed and was at my desk in the Zoo office. By half past four in the afternoon I was at *The Times* office in a new, and in Wickham's Steed's time as editor, an extremely pleasant atmosphere. Sometimes I got away before dinner; sometimes I was kept until late in the evening. The only days I dreaded were twelve Tuesdays in the year when the day's work at the Zoo was continued by a committee at five, and by a scientific meeting from half past five until seven. Wickham Steed was one of the most affectionately friendly persons I have known, but the cares of a great newspaper inhibit all other considerations, and sometimes it happened that while I was at the scientific meeting, a telephone message would be sent in to me, requiring a leader that night. I never flinched, but sometimes it was a weary effort. One evening, on my way to *The Times*, I had dropped my bag at a nursing home, as I was due for an operation next morning. I told Steed about it and said that I should be away for a few days, and I rather

hoped to be released that evening. He was most sympathetic and genuinely relieved to know that it was only the chipping out of an annoying little growth on my forehead. But presently at the editorial conference he had forgotten all about my private troubles. Discussing the leader subjects for next day, he said of one:

'That is your pigeon, Mitchell.'

It had to be my pigeon and I served it up duly plucked and trussed. No doubt it was the best thing for me; even a stout heart worries a little over the prospect of a full anaesthetic next morning!

My first four months at *The Times* were occupied by preparing a daily column, 'Through German Eyes', based on a daily reading of the German newspapers. It had been begun by J. E. Mackenzie, the Berlin correspondent, who had a unique knowledge of German press men, and on his sudden death from influenza it was handed over for a few days to Hubert Walter and then to me. The daily column was discontinued at the end of June 1919 on the signing of the Peace. Meantime, Steed had become editor and I had been attending his afternoon conferences in the editorial room. It was his view that all possible leader-writers and the senior members of the staff should be present. A dozen to fifteen of us sat round the room. J. Murray Brumwell, afterwards assistant-editor, then responsible for the make-up of the whole paper, a great part of which had already been settled, sat in an armchair alongside the editorial desk, silent and polite, but a little impatient to return to his duties, and in very slight sympathy with Steed's general views and policy. Steed, sitting at the editorial desk, pale, elegant and ambassadorial, gave us what he called his *Child's Guide to Knowledge*, a brief review of the chief events, national and international, of the day, vivid, and to me at least of absorbing interest. Then he would appear to remember quite suddenly that the business in hand was not to indoctrinate us,

but to settle the subjects and the writers of the leaders. That done, the conference dispersed, but afterwards the editor would generally have a private talk with whomsoever had been selected to write the first leader, or any other leader in which the policy of the paper was concerned.

I had already written one or two leaders for *The Times*, but always at home, on special subjects and with several days' notice. But a week before 'Through German Eyes' came to end, Steed suddenly asked me to write a leader for the paper of that evening, and very soon he made me one of his regular writers. The subject was sometimes given to me, sometimes I was asked to suggest one. Sometimes there was a few minutes' conversation with the editor after the conference, sometimes I was left to my own resources, but always there was someone ready to give advice or make suggestions, or supply quotations. Of these the most fertile in resource, a great scholar and conspicuous in a set of colleagues all full of kindliness to a beginner, was George Brodribb. G. S. Freeman, deputy-editor, who assumed the chair in Steed's absence, was unwearied in expert help. At first even with all the help and encouragement I got the work was a strain, but in time I took things as they came. Possibly I had the advantage of rather wider knowledge than some of my colleagues, especially on scientific subjects. There were also great advantages not special to me. It was unnecessary to bother about grammar and spelling, as there was a skilled correcting staff. The editor always read a leader before it appeared and took the responsibility of modifying or accepting any of the opinions set forth. There was an Intelligence department beyond all praise, to which, when I knew my subject, I went. 'I am writing on such or such to-night.' Then I went to the tea-room, and whilst chatting and chaffing my mind was at work subconsciously. When I got up to my room there were ready cuttings from former issues of *The Times* bearing on my subject, all the

references suggested by me, and useful additions from the department—props sufficient to stiffen the spine even on its limpest days! No doubt these details are familiar to members of the staff of any great journal; to me they were the revelation of a wonderful organisation.

From the middle of 1919 until February 1923, I wrote leaders regularly, sometimes as many as five or six a week, on all manner of subjects, political, general, scientific, and 'light'. When the present editor succeeded Steed, I ceased to attend the conference and wrote leaders only on special subjects, such as the British Association, in my own time.

Turning over copies of the hundreds I wrote, I think one or two may have a special interest. On Thursday, November 7, 1919, at a joint meeting of the Royal and Astronomical Societies, the British observers of the total solar eclipse of May 29 reported that the predictions of Einstein had been confirmed and that therefore science had to reckon with a fundamental change in conceptions of space, time and the universe. After the meeting, at a dinner of the Royal Society Club, the theoretical bearings of the Einstein theory were discussed further, and as the company were not wholly mathematical and physical, it was possible for a zoologist to begin to think that he understood something about it. At ten o'clock I took round to the office a memorised report of the proceedings at the joint meeting, and looking into Steed's room I told him how important the Einstein theory appeared to be. He said, 'Well, you have half an hour, and you must write a leader on it; never mind how short, but I'll put it in as the first leader.'

Next morning there was an explosion of interest, and whether it was a good thing or not, the Einstein theory and the abolition of absolute time and space became the talk not only of the town but of the world. *The Times* followed up the subject, and we had an article from Einstein himself ob-

tained through the Berlin correspondent, and other leaders. The office joke was that the chief of the news department sent out emissaries next morning to enquire what the Prime Minister, the Head of the Salvation Army, Mr. Gordon Selfridge and others thought about the deposition of Newton.

Another leader was followed by a curious episode. There had been a case in the Court of Criminal Appeal in which the Lord Chief Justice, Mr. Justice Darling and Lord Reading had each made little judicial jokes about Jews and Scotsmen. It happened that a 'light' leader was required that evening from me, and I seized the easy opportunity. I said amongst other things which were meant to be funny, but might or might not have been so:

'Scots and Jews have entered the open doors of England in quite considerable numbers and, in serving their adopted country, have not done badly for themselves. They should not grumble, nor do they often grumble, when a little cheap humour is directed against them. There is one curious distinction between the Jew and the Scot who have prospered in England. The former is inclined to proclaim himself as English with even an undue vehemence; the latter is convinced that he has retained all the characters of his race, except its accent.'

When I reached the office next afternoon there was the devil to pay. Lord Northcliffe, it appeared, had met a Scottish friend in the train, and between the two a storm had been worked up. As soon as he came to London, Northcliffe had telephoned to the manager insisting that the writer of the article should be dismissed at once. Lints Smith and Steed received me with gloomy faces in the editorial room, and explained what had happened. I asked if Northcliffe had been told who had written the article.

'Certainly not', said Lints Smith.

'Well', I said, 'please telephone to Northcliffe, saying

that I am the culprit and that I am coming round to see him at once. Meantime I offer my resignation.'

Almost simultaneously Lints Smith and Steed said:

'You offer your resignation, and we do not accept it.'

The message was sent to Northcliffe, and I went round at once to the Amalgamated Press office and sent up my name. Down came Humphrey-Davy, Northcliffe's private secretary:

'Lord Northcliffe asks me to tell you that he is very much occupied, and that he is extremely sorry that he cannot have the pleasure of seeing you.'

I don't know how far the discreet Humphrey-Davy had recast the verbal form of the message, but that was the end of the matter. Three days afterwards Lord Northcliffe asked me to luncheon; we talked about many subjects in the pleasantest way, but *The Times* was not mentioned.

In January 1920, *The Times* had printed an article describing the Air Ministry's survey of a possible air-route from Cairo to the Cape, which was supposed to be complete and to be provided with practical aerodromes and landing-places at convenient intervals. I had had no opportunity of seeing the tropics, and Africa had always excited me, especially since my friend J. W. Gregory had described the geology of the Great Rift Valley and its ramifications from Mount Lebanon in Syria to Lake Nyassa in South-east Africa, scars extending over a sixth of the circumference of the earth, and on such a scale that they would be visible to the naked eye of an observer on the moon. I thought the route ought to be tested, and competent pilots should be accompanied by an independent observer. Northcliffe was deeply interested in aviation and had been a generous supporter of it. I went to see him and made my points about the need of testing the route.

'Meaning yourself, by the "independent observer"? Excellent.'

Reaching for the telephone without another word, he called the manager of *The Times:*

'*The Times* is going to send Chalmers Mitchell on an aeroplane to try out the new Cairo to the Cape route. Buy a plane, get competent pilots and arrange everything necessary.'

That was that! I have described the trip in other chapters of this book ('The Golden Journey', pp. 299-360). On our return there was another characteristic episode. *The Times* gave a luncheon to the pilots and myself at which, amongst others, Northcliffe and I spoke. Next morning, as was natural, the papers gave a full report of Northcliffe and a brief report of what I had said. Before noon a note came to me from Northcliffe saying that he was most vexed to find that so much space had been given to his 'rambling remarks' and so little to my speech. There is evidence and to spare that Northcliffe's physical and mental temperament often led him into inconsiderate action, and towards the close of his life to acts of injustice which seemed malicious. But he was a warm-hearted man, and nothing pleased him better than to be able to do kind things. Years before, for example, hearing that Henley was a cripple, he sent his new car to take him for a fast run, an action which gave Henley one of the few real pleasures of his life, and was the occasion of his poem, *A Song of Speed*. Another example: one of his most brilliant correspondents had died suddenly, leaving a widow to whom Northcliffe gave a pension. Soon afterwards he got a plaintive letter from the lady saying that she was in difficulties. Northcliffe at once sent a cheque, but reflected that it was easy for a rich man to send money and that a disconsolate widow deserved personal sympathy. And so, on the spur of the moment, immediately after lunch on Sunday, he set off in his car to pay a personal visit—and found a riotious baccarat party in progress! I saw a good deal of Northcliffe at Crewe House and after the Ar-

mistice in Paris. He had imagination and the swiftest powers of decision. In matters of money he liked being rich, partly because wealth gave him the power of doing what he wished to do, and partly because money represented the stakes for which his game of life was played, and to win money meant that he was winning the game. In politics, national or international, he was an idealist, and I know that the stories as to his having coveted government office for himself are untrue. That he was often wrong in his judgments, that he made many mistakes and that he came to overestimate his own importance—no doubt these are all valid accusations. But what about it? Which of us, gaining wealth and power by foresight and determination, surrounded by advisers whom he could make or break, flattered and obeyed by high officers of State so long as they could use him or fear him, is going to preserve a balanced integrity of mind?

On my return from Africa I was enthusiastic about the future of the air, being sure that the troubles we had encountered were mechanical difficulties which would speedily be overcome. With the sympathy of Steed, but without the concurrence of most of the office, I was allowed in leaders and elsewhere to insist that the future of defence, offence, and swift transport, lay in the development of aviation. Looking through some of these articles, written from 1920 to 1922, I find that the futility of huge battleships, the need of a great air-force, the loss by England of her insular security, the need of research on engines and planes, were urged with the same arguments and against the same obstinate resistance that exists to-day. But there is one difference. Thirteen years ago it would have been easy for England to lead, and to keep the lead in the air.

Distinguished people often die unexpectedly. It is a habit no doubt tiresome to themselves, but also extremely tiresome to a newspaper. For that reason, every great periodical keeps what is called a graveyard, a collection of

obituary notices of living people, filed and card-catalogued ready for emergencies. From time to time these are gone over and brought up to date by correction and the addition of new names. Some of that work was entrusted to me, and very often by innocent questions to friends who probably will survive me, I got material which otherwise would be difficult to find. But to those who covet the posthumous pleasure of a really good obituary notice, two pieces of advice may be given. Die whilst your fame is still fresh, and die on a day when there is no big murder, or earthquake, or event in politics, or rival death! Carnegie, for example, gave trouble by not observing these rules. The news of his death came unexpectedly from the United States on August 11, 1919. The paper was already full, and it happened that the staff were fully occupied. The obituary in stock would have covered at least a whole page of *The Times*, and only two columns could be spared. When I reached the office late in the afternoon, I was given the task of compressing the obituary to the required dimensions—which really meant rewriting most of it—and of writing a short leader. It was a strenuous evening, but I got through the jobs.

In June 1920, Steed asked me to go to Boulogne to assist the regular Paris correspondent in connexion with the conference, giving me in particular a letter to 'Pertinax', who would probably be in possession of intimate knowledge of the French views. I already knew that very able journalist, and found him as usual ready to give information and at the same time to insert into it some of his extreme views of the claims of France. At the customary midday conference, when the late Lord Riddell, who was in charge of the dispensary of information to British journalists, began to address the twenty or thirty press men, he said at once: 'But there is a stranger here', looking at me, and then at once adding 'How are you, Chalmers Mitchell? What are you representing here?'

I told him, and after his talk was over Lloyd George came into the room, Riddell whispered a few words to him, and then beckoned to me. The Prime Minister shook hands and at once began to talk about the African flight from which I had returned a few weeks before. 'A very fine performance', he said, and then added, with an expression of intense distaste on his face, 'But when you go back to London, tell Steed that there are a great many things on which he is completely ignorant.'

After luncheon, Riddell took me up in an official car to the château where the conference was holding its afternoon session. We passed up the winding streets, lined with troops who stood to attention as we went by. The château was in a little garden with a lovely view over the harbour and the town. From time to time members of the conference came out to smoke a cigarette and I was introduced to some of them. Then Riddell, conferring a great favour, took me round to the back, where there was a window through which we could look into the conference room and see the great men at work. Then back to the town with more saluting, after which Riddell arranged for me to return on a private official steamer instead of waiting for the ordinary passenger boat. Amongst the few on board were President Masaryk, the great Czechoslovakian statesman, an elderly grey-bearded man whose gentle professorial manner covered a tenacious will and a high idealism. As soon as he knew that I was a friend of Steed, he had much to say about Steed's vast knowledge of the real problems arising from the dissolution of the Austrian Empire.

In March 1921 I was asked to write a weekly scientific article for *The Times*, not quite 'popular science', but science so written as to be intelligible to the educated public and not distasteful even to a specialist in his own subject. These articles required and received from me a great deal of labour and thought, but they forced me to try to

keep in touch with the movements in science outside biology, and they brought me many new friends. They were continued as weekly contributions until the middle of June 1924, then, as I was told that there was not sufficient space for weekly scientific articles, fortnightly, until the middle of 1932, after which there was no room for science. It was a relief to me personally, as the Zoo with Whipsnade could absorb all my time, but I thought, and continue to think, that in the modern world a great newspaper which finds space for a weekly sermon, should find at least fortnightly space for science.

My scientific articles in *The Times* and elsewhere led to a number of encounters with thought-readers and spiritualists. One of the more amusing of these was with the late George R. Sims, 'Dagonet' of the *Referee*, playwright, epicure and most entertaining and competent journalist. As he lived in Regent's Park, I knew him well by sight—indeed, with Professor Jeffrey Bell, he was one of the two sights of London. Both were small, ugly and talented men; both took a pleasure in dressing in costumes which would have been exaggerated on the comic opera stage, Bell haunting Piccadilly and Pall Mall, Sims, Fleet Street and Covent Garden. Sims had written one of his articles in his column 'Mustard and Cress' in the *Referee* on spiritualism, making comments which were unpleasing to devotees. His old friend Conan Doyle wrote him an angry letter, and, almost at the same time, he received a polite rhymed invitation to attend a séance from an unknown correspondent. Sims accepted, and was treated to a dark séance which differed only from the routine of these performances in its complete success. Spirits stroked his head, tweaked his hair, gave him a bunch of real violets, and brayed messages through a speaking-trumpet on the floor. Poor Sims was about as competent to see the flaws in the 'evidence', as I should be to detect how a first-rate conjurer did his tricks, and in addition,

was rather in a mood—partly of curiosity and partly of fear—to be convinced. I was asked to write a comment on his report of his experiences in the *Referee*, and did so in very open language so far as the séance was concerned, but with complete politeness with regard to Sims, whose weekly 'Mustard and Cress' was clever fooling mingled with robust commonsense. Sims replied, very rightly defending his account of the séance, and I retorted in language still more open. That was the end of the public side. Sims came round to see me, and we had a pleasant afternoon and parted good friends, he, however, ending with a warning, partly humorous, partly sincere, telling me that it 'was not quite what I thought, and that I was running a grave risk in offending the spirits'. But I had stirred up a hornet's nest. Letters poured in on me, some abusive, some pleading, all anonymous. Amongst them was a long, extremely well-written letter reproaching my levity as unworthy of a scientific man, and saying that the phenomena of séances should be treated with the same gravity that I gave to the subjects dealt with under the 'Progress of Science'. I re-read the letter, reflected, and then wrote a reply beginning 'My dear Conan Doyle'. By return of post there came an answer, written more in sorrow than in anger, repeating his arguments, and saying that he had written anonymously lest his name should prejudice me! In a final sentence he added: 'But how on earth did you know that the letter came from me'? It was too good an opening: I replied hurriedly—'My dear Watson, I looked at the postmark.'

Another set of differences of opinion, although these were never dissolved, brought me a delightful and enduring friendship with Sir Oliver Lodge. They began with a correspondence in *The Times* in which Ray Lankester and I insisted that Lodge had claimed Huxley as an opponent of the inorganic origin of life by a misinterpretation of some words in his Essays. They continued on the validity of the

evidence for telepathy, the reality of communications with the dead, and many kindred subjects. One of the last occurrences came about because I had been asked to reply to two long articles written by Sir Oliver in *The Outline*. These were a plea for a more serious consideration for psychical research, and a complaint that the existing scientific societies, and in particular the Royal Society, had refused to give it attention. In my reply I tried to cover the ground, and to explain that in all the range of natural and physical science the experiments were such that if the conditions were uniform the results followed. If the results did not follow, then it was clear that some mistake in technique or in the conditions had been made. Moreover, the results of experiments were not accepted as proved on the authority of the experimenter, but only when, the methods and conditions having been explained, the experiment could be repeated in other laboratories, and being repeated led to the same results. In psychical research, on the other hand, there always seemed to be something mysterious, wayward, and beyond the possibility of experimental proof. But there was no reason why new societies should not be formed for new kinds of work, leaving to the existing societies the methods which they had found satisfactory almost since science began. Sir Oliver wrote to me the most friendly of letters, saying that he would have been convinced by my article, if he had not known that the alleged phenomena did actually happen. It is a defence against which there is no argument, and is similar to the fundamental conception underlying the great religions of the world. Not argument, but belief. But I still think that Sir Oliver and some of the few cultured and trained protagonists of psychic 'phenomena' are wrong in trying to get the best of two worlds, and to support beliefs by rational argument.

CHAPTER XIV

The Great War 1914-1918

*

In the Boer War I was in trouble at the Savile Club as a 'pro-Boer'—I don't think that the word 'pacifist' was then current as a term of abuse. It began with my open scoffing at Alfred Austin's silly lyric excited by the Jameson Raid, published, I think, in the *Morning Post*, and beginning:

There are girls in the Golden City

It blew into a tempest the day after Redvers Buller left for South Africa. Rider Haggard, Edmund Gosse, Egerton Castle and others were chuckling over Buller's alleged parting words to the Prince of Wales:

'I'll be back for the Derby, Sir.'

I interposed, probably meaning to annoy and certainly succeeding:

'But what if it isn't going to be merely a scrap between our army and the Boer levies? What if we are up against the whole nation, old men, women and children, a dour people, pious and quite possibly confident that God is on their side. Is the British Army going to burn their villages and capture their women as we do when we are carrying the white man's burden over the frontiers of empire?'

My friend Eustace Balfour, who had a sense of humour, stopped what was going to be an unpleasant scene by saying cheerfully that next Saturday he would bring a squad of the London Scottish, of which he was Colonel, down to the club and have me out on the nearest lamp-post!

In July 1914, war between great nations hardly seemed

a possibility to me, as to most people in Great Britain. The cries for a larger navy, the demand for conscription and so forth, we regarded as due to the natural enthusiasm of professional sailors and soldiers and the trades dependent on them, or as moves in the game of party politics. Even the recurring international crises we were content to leave to the diplomatists, sure that there would be ways out. I personally was fully occupied. The Zoological Society was on the upgrade; the success of the Mappin Terraces, to which there had been much opposition, had strengthened my hands, and I was working at the plans and the financing of an aquarium, for which the under-structure of the Terraces had been secretly designed.

On Friday, July 31, I drove in the morning to the New Forest, intending to come back after luncheon, as I had a dinner engagement in London. But the car was held up again and again by troops, plainly not on route marches or exercises, but with full equipment, clearly, as it seemed to me, on the way from Aldershot to Southampton or Portsmouth. Suddenly I realised that the position must be such that the military authorities were not going to play with it. I got back too late for the arranged dinner, but at the club there was a feeling of tension, and, very unlike the state of feeling at the beginning of the Boer War, the strongest wish was that Britain, at least, should not be dragged into war by her politicians. Next day, Saturday, August 1, I went to Wormely Bury, where my friend Albert Pam had bought and furnished a country mansion and was giving a garden party to his city friends and new neighbours. There was an effort at friendly gaiety—not many months later the owner turned his house into a hospital and was himself in France. But behind the superficial lightheartedness there was deep gloom. The news from the city was of imminent war and of the collapse of the finance of the world. But still there was no trace of special hostility to Germany.

I went back to London, put away the plans and projects on which I had been engaged, and began a slow review of the details of the Society's commitments and current expenditure to see how they could be cut down. Then came the two fateful days, Lord Grey's speech, the ultimatum and war. And with war there came the amazing riot of patriotic exuberance which, in every country, seems always to follow a declaration of war. But for a good many days, amongst my friends and amongst the people I met, there was still no personal hostility to Germans, of whom many were left in London. It was only slowly as the diplomatic history became known that we assigned 'war-guilt' to Germany. And for my part, the fuller study of State papers and memoirs from all sides has changed only in one sense my conviction of the justice of that attribution. Apart from this or that diplomatic manœuvre, Germany of all the countries was the most ready for war, most confident of victory, and most assured that the path of her future progress lay through war. But in a wider sense all the nations were then, and are now, equally responsible for allowing themselves to be beguiled by the fighting forces, the trade interests, the politicians, the press and the churches into the belief that armed preparation for war is the best defence of peace. An international police force, yes; national armies and armaments, no. The other view is an epidemic lunacy, the seeds of which lie dormant when an outbreak has exhausted itself, but very quickly flare up again.

The first meeting of the Council after the declaration of war was on August 19. I had completed plans for cutting down expenditure, and these were adopted after some protests on the lines of 'keeping the home fires burning', demanding the use of reserves to supply temporary deficiencies of income. I insisted, with strong support from the President, that our reserves should be zealously preserved, to be used as soon as the war was over, and I

was given a free hand, with the result, I am glad to say, that when peace came we had more liquid money in hand than at the beginning of the war, and could spend freely in getting going.

We made arrangements that all our men who went on active service should have their places kept open, that their wives should be looked after, and that a portion of their wages should accumulate so that there would be a nest egg when they came back. We had very little difficulty over food; the Army wastage of horses provided us with flesh for the large carnivora; we killed and used as food a few of the surplus herbivores, and the natural mortality amongst the animals, not being replaced by new importations, kept pace with the growing difficulties of food. In the latter two years of the war we had some trouble with the hosts of temporary officials of all kinds who came to enquire into our coal and our gas, the building materials we used for repairs, and almost everything. But I found a way of dealing with them. I was at work in the War Office in the afternoons, and with the amused concurrence of my chiefs, I was allowed to interview them in Whitehall. It was interesting to see how a man in temporary civilian authority quailed and became reasonable after he had been kept waiting in a corridor under the cold eye of a sergeant.

To keep up interest in the gardens and to do collateral service, we carried out some special arrangements. In 1915, at the suggestion of the late Professor Maxwell Lefroy, Honorary Curator of Insects, we held an exhibition illustrating the dangers to health due to blowflies, bluebottles and house flies, and the modes of combating them. Under Lefroy we carried out extensive researches on the subject, partly at the cost of the Society and partly with small grants from the Local Government Board and Mr. Otto Beit.

The Imperial College of Science and the Royal Horticultural Society released Lefroy from his other duties, and

these bodies, the horticultural stations at Swanley and Reading, the military authorities, and the Cooper Research Laboratory at Watford gave opportunity for carrying out work. Useful results were obtained respecting the treatment of stable manure and house refuse and the use of traps and baits, and these were sent to the War Office and the Local Government Board. The exhibition was a 'draw' to the public, and demonstrations were given to units of the Royal Army Medical Corps and to civilian sanitary authorities. Lefroy, who later on lost his life in a laboratory experiment on diffusible fly-poison, was one of the most resourceful experimentalists I have known. I was a little doubtful about the time and trouble he was giving to the search for baits specifically attractive to different kinds of flies, as I thought that most kinds of decaying matter were nearly equally attractive. But he assured me that there was a marked preference for special breeding grounds, and told me that he would undertake to prepare three separate baits for three species of flies, all very rare in London, expose these in the gardens, and find the named species on them within a few days. He caught the flies. It was true that general removal or covering up of all refuse was a valuable sanitary measure, but if extermination was aimed at, the individual tastes of the different species had to be discovered and used for their destruction.

Next year, and in 1917 when the food problem was becoming more urgent, we arranged an equally popular demonstration and exhibition of the modes of intensive poultry culture by which egg-production might be carried out in town gardens and backyards. In these years also, we began to use our greenhouses for the cultivation of tomatoes, and to replace flowers by vegetables. Our Scottish head-gardener rejoiced in finding the opportunity of turning his skill to practical uses, and one of his most attractive devices, which in itself brought visitors to the gardens, was to re-

place the old parterres of flowers by symmetrical designs in which the graceful and coloured foliage of common vegetables was used. We sent large quantities of vegetables to hospitals, and distributed the rest to our working staff. As the number of animals in the menagerie became reduced, we used the freed accommodation for such creatures as could be used as food—pigs, rabbits, geese, runner-ducks and poultry.

During the War the damage caused by rats in the carriage of disease and the destruction of human food and property was realised more fully than before. In conjunction with the Board of Agriculture and the Local Government Board, and under the direct control of Mr. E. G. Boulenger, we arranged an exhibition and elaborate investigations into the methods of reducing the rat population.

And so in one way or another the Society kept the remnants of its staff busy, its buildings in full use, and its attractiveness to the public, through the difficult years.

The direct effect of military operations on the gardens was small. The German bombs which exploded nearest to us fell more than a quarter of a mile off, near St. John's Wood Station, although in the direction of Maida Vale, and to the south and south-east, there were explosions near enough to shake our buildings. Nothing actually fell in the gardens except fragments of shell from the defensive barrage. Before the first 'raider' reached London we had come to the conclusion that the chances of direct hits which might release animals without killing them, were small, except in the case of the reptile house, where the glass windows of the cases might easily be shattered. For these we had additional wire screens prepared, ready to be put in position as soon as a warning signal was given, and as a routine precaution placed in position every evening. What we feared most was a sudden panic during a daylight air-raid, if visitors thought that animals might escape or had

escaped. Every keeper, gardener and labourer had his exact post and duty assigned, the places where there was most shelter were marked, and a number of panels in the boundary fences were loosened so that they could be turned into emergency exits at a moment's notice for those who preferred the dangers of the open park to the chances of meeting a frightened animal. As it happened, the few daylight raids came when the gardens were not crowded, and the keepers had no difficulty except to persuade visitors to keep under cover. The animals took no notice of the bombs.

Night raids were easier, because of the absence of visitors. As soon as warnings were heard, the head gardener, two night watchmen, four or five keepers, and at least two of the higher officials, went to their appointed stations. The existence of well-lighted and warmed cellars became known locally, and a party of neighbours usually spent a sociable evening in them. My own favourite post was on one of the high platforms of the Mappin Terraces, where there was a reinforced concrete slab overhead, ample protection against anything but a direct hit, and where the wide skies were open on three sides. In the intervals of firing, the strangest impression came from the silence of London. Usually if one is in an open space at night, free from adjacent noises, London reverberates like a hollow shell. Against the dull roar of the sounding city beat loud intermittent notes of trains whistling or shunting, the rumbling of heavy drays, the hooting of motor horns, and, rather strangely, distinct individual human voices. The impression of one September evening cannot fade. The city was holding its breath, when suddenly in the northern sky, a stricken airship exploded into a huge yellow flame out of which a glowing oblong sank, tipped up, and dropped slowly downwards, its red length barred for a moment by black trees on the horizon. As it sank the amazed city seemed to gulp out a sob, which passed into a fierce and exultant clamour.

The animals in the gardens, accustomed to loud although distant noises, were little excited by explosions or even by the defence guns. Most were awake, pacing restlessly. The goats and the bears on the upper terraces moved unceasingly. The lions were active, but seldom roared, but the wolves and jackals, as on a windy night, frequently broke into their rising and falling chorus. There was restless movement and an occasional shrill cry in the monkey house. The emus kept uttering their deep low boom, but the birds of prey and the small birds sat motionless, and even the restless ducks and timid waders showed no sign of excitement. Inside the reptile house an electric torch showed no movement. Nowhere in the gardens was there a sign of fear. Loud but distant sounds put many creatures on the alert, but arouse no instinct of escape.

But it was different when a rain of fragments of shrapnel pitter-pattered on the roofs or fell with soft splashes on the ground. Unfamiliar sounds, even if gentle, when close at hand, caused panic. Goats and antelopes leapt into the air and scattered, cranes, storks, water-fowl and all the waders raised clamorous voices and circled wildly over their ponds. Each animal, in the fashion of its kind, showed instant reaction. Doubtless they were following the inherited instincts of wild life. In the woods or the plains or the hills, far-off sounds may call the senses to attention, but it is when a stealthy enemy has crept up and betrayed its immediate presence that the reflexes of fear must respond. No death or serious accident was caused during any of the raids, but we were relieved of much anxiety when the protective battery was removed from Primrose Hill!

After August 1914, when the gardens had been reduced to their new scale and the War was going badly, I was discontented with having little to do, except a few special scientific committees. I was in my fiftieth year, and had neither military training nor inclinations. But I knew Jack

Tennant, the Under-Secretary of State for War, well, as I had taken an active part on a departmental committee of which he was chairman, to enquire into sea-fisheries and marine research. I wrote to him saying that at least half the day was at my disposal, if he could make any use of me at the War Office. But at that time there seemed to be no use for civilians. From then until February 1916 was the most miserable part of my life. The War was going badly; relations, friends and acquaintances were being killed, and I felt useless. I did some research work, wrote many reviews, took the First Aid Red Cross Course at the Polytechnic, and then gave the keepers, gardeners and labourers so coplete a drilling in the subject that they all passed the examination and got first-aid certificates. It was still possible to use a car; I sandpapered the old enamel of my car and reenamelled it. I took up pastels, and did some landscapes, some of which I sent to an exhibition at the Grafton Galleries, and got friendly notices of them from the critics. A thoroughly dismal time. Then suddenly there came to the office one evening an emissary from the War Office, as I have already told in Chapter IX, and not long afterwards I was a Captain, attached to the Department of Military Intelligence in the War Office. From then onwards, as I was allowed to retain my work at the Zoo, the last complaint I had was of unoccupied time. My Captain's commission was only a matter of convenience in the kind of work I came to do, but I had the honour of being mentioned in dispatches and receiving first the O.B.E., andthen the C.B.E., military division, a gratification to one who is a civilian by temperament and training!

For officers and men on service in the field, the war for the most part consisted of intense bursts of dangerous and disagreeable activity, with varying intervals of weary waiting. It was not so with me. When I was in the war zone, it was my duty to keep out of danger and it was only by accident

that there was any reason to be frightened. Once the staff-car, on which I was, ran into trouble and we were ordered to get out and put on gas-masks (stifling, unpleasant things), and lay for a couple of hours in a ditch near Vimy Ridge, apparently with fire from both sides passing over our heads. Once at the Intelligence Advanced station, German planes kept passing over us, and every few minutes we were ordered to leave the wooden office and shelter in dug-outs. Once I was held up at Folkestone for two nights and a day, because of a fog in the Channel and an alarm about submarines. The news did not seem to have reached London, for almost every hour a new train brought a fresh contingent of officers, until there was no room even on the chairs in the smoking-room. And when the first steamer did start, it was so crowded that we had to stand shoulder to shoulder on the deck. When we got outside Boulogne, a daylight air-raid was in progress. It seemed incredible, during the hour we lay motionless, that the Germans should not have a shot at so easy a mark.

Not long after I was at the War Office I went to Holland, and as I had zoological business as well as other duty, it seemed better to go on my civilian passport, in civilian dress. In the carriage, on the way to Gravesend, there was a resourceful-looking, swarthy man, who spoke with an accent I couldn't place, said he was an American, and talked 'big' about what he was going to do in Denmark and Sweden. At Gravesend we were lined up and cross-examined rather meticulously. I was immediately behind my swarthy friend; his assurance had gone, and he was sweating with what seemed terror. He was in the shed for a long time, and when I followed, as the officials had been notified, I wasn't kept half a minute. When we got on board, the man was towelling his face and had taken off the limp rag which had been a starched collar in the train. I still think that he was Frank Harris, whom I had not seen

for several years, but he spoke to me as a stranger, and had another name in large letters on his valise, and it was none of my business. It was an uneasy night, and soon after dawn the steamer stopped; I put an overcoat over my pyjamas and went on deck. It was a thick fog; voices sounded a few yards away; a spar pushed through the fog, and a grey hulk almost touched us. But it was the British Navy giving our ship some direction. At the time it was not sinister, but only mysterious. Very soon afterwards, however, Captain Fryatt made the same trip for his last time, was taken off by the Germans, and, after what was called a trial, was executed. I used to wonder what unpleasantness might have happened to me, if the Germans had stopped my boat, and by some odd chance had found that the Secretary of the Zoological Society was also an officer not travelling in uniform.

When I registered in the hotel at Rotterdam, the clerk rather uncivilly reminded me that I was in a neutral country. Rotterdam seemed to be full of Germans, and in the hotel the lounge had groups of them at almost every table, with mugs of beer and huge plates of sandwiches, while in the dining-room there were even more Germans, rejoicing in the abundant and succulent meals of Holland. When I went to my room after luncheon, I found that my valise had been opened and searched, even the shirts having been unfolded and put back rather carelessly. But, in fact, it was very pleasant to be in a peaceful and, at the time, apparently overwhelmingly prosperous country. Amsterdam was even more pleasant, and, as it seemed to me, had fewer Germans. I spent a delightful day at Goilust, where a very old Dutch friend had one of the best private collections of animals in Europe. It was strange to be in a luxurious country house, full of flowers and servants, as if such a thing as war did not exist. Before luncheon my host said:

'I have some German friends coming to luncheon; do

you mind, or would you prefer to be driven to the hotel, where you can eat very well?'

He didn't think it necessary to remind me that he was a neutral, and so I replied:

'Certainly I don't mind, if you don't, but I think I ought to tell you that I am an officer.'

'Well', he said, 'so are they. But we shall talk about animals.' We did talk about animals. They were trim young men, on a few days' leave. They had hunted in Ireland and shot big game in Africa. There was no reference to the War, except incidentally when we exchanged information as to the prosperity and superabundance of food of all kinds for the animals in the zoos of London and of Berlin!

In Rotterdam, whilst waiting for a train, I went to a cinema and had the pleasure of seeing a propagandist film that I had seen already in Paris, in which a gallant young French officer, at the peril of his life, was rescuing a girl from the attacks of brutal German soldiers. The only difference was that it was a gallant young German officer, who at the peril of his life was rescuing a girl from the attacks of brutal Frenchmen.

Before I went to Holland I was sent to the Island of Herm to report on something. I reached Portsmouth in a heavy snowstorm, and when I got on the patrol ship which had been called in to take me, the captain said that it was impossible to cross that night. And so we lay off St. Helen's all evening, the more uncomfortably as the ship was tee-total. It was clearer early in the morning, and when we sighted the coast of France, the snow-covered hills rose like islands over a low fog. But when we got near Guernsey there was a high sea and the captain said it was not safe to try to get into St. Peter Port, and that he would wait until next day. But I was proud of my authority and said that to Herm he must take me. He turned out the chart, and found that although it was impossible to land at the little

pier opposite Guernsey, there was a bathing beach on the lee-side of the island to which a boat might approach. Accordingly, accompanied by a blue-jacket, I was put ashore, and spent a couple of hours going over the small island, the manor-house and its gardens, seeing no one except an old farmer who came part of the way with us. Two days later the Colonel bade me to his room in the War Office.

'You have put both feet into it,' he said. 'Here is a furious letter from Sir Reginald Hart, in command at Guernsey, saying that a person in British uniform, accompanied by a blue-jacket, had landed secretly on Herm, without reporting to him, and had spent a few minutes on the Island. Did not the War Office recognise that they might have been challenged and shot.'

'Well, Sir,' I replied, 'the answer seems easy. The War Office much regrets that on account of the inclemency of the weather, it was deemed impossible to land at Guernsey, and the officer in question thought it right to discharge his duty in the only way that seemed possible. But in one respect Sir Reginald's information is inexact. The officer and blue-jacket spent not a few minutes but nearly two hours on the island, and the War Office would be glad to be informed why they were not shot.'

The Colonel chuckled, but said he thought that he could soothe the old man, who was a V.C. and a distinguished soldier. But a few days afterwards he sent for me again, to tell me that I had to go to Herm once more, and that this time I must go straight to Guernsey to report to the General. I looked dismayed.

'Oh, he is a very nice old gentleman; he is a great fisherman and fond of animals. I've written to him, telling him you are Secretary of the Zoo.'

I thought it would be well to strengthen my hands, so I went across to the London Library, and to my joy found that Hart had once written a little book on military matters,

over which I spent a useful hour. At Guernsey, the General received me coldly and at once broke out on the irregularity of my conduct. After a few minutes I said:

'Well, Sir, I am very sorry, but if you remember you yourself said in your book that an officer in a difficult position must subordinate everything to carrying out his duties.'

'What! You know my book; how did that come your way?'

'Well, Sir, I am a life member of the London Library, and when I found myself an officer without any training, I thought that I'd look up some of the authorities.'

He was an able man and a great gentleman; I haven't the faintest idea if he believed me or not, but he asked me to luncheon and gave me every possible assistance. At luncheon I asked him about his experiences in India and South Africa, and in particular got him to tell me about his V.C.

'That was nothing,' he said, 'it was only that I was able to run faster than the others.'

I came up against military discipline on another occasion. I had been sent to France at a moment's notice. On the landing-stage at Boulogne I ought to have looked on the big notice-board for my name, as a pass was waiting for me. But the crossing had been rough, and there was a staff-car waiting on the quay in which I saw a friend. I hopped on to it, and before long was sitting in a room in G.H.Q., discussing how best I was to carry out my mission up the Line next morning. The door opened, and a young officer came in.

'Is Captain Mitchell here?'

'Yes.'

'You are to come to the General at once.'

As I followed him the few steps to another room, he said to me:

'You mind your step; the old man is in a hell of a rage.'

But before I could ask him what it was all about, he

pushed me into a room and closed the door behind me. A very fierce, red-faced old general looked up from his desk for a second and scowled at me.

'What are you doing here?'

'Well, Sir, I am sent over from the War Office, and was arranging what to do to-morrow morning.'

'I am going to put you under arrest.'

'Well, Sir, you must do what you think right, but I am under orders to return to the War Office to-morrow night. I am not really a soldier and I suppose I've done something wrong.'

'Anyone can see you aren't a soldier, or you would know that you cannot enter G.H.Q. without a pass.'

'Well, Sir, but I am in G.H.Q.'

I thought that he was going to have a fit, but suddenly he grinned:

'I'll send a pass across to you, but when you go back to London, please tell them that I am not going to have any more of you people coming over from the War Office and thinking that you can do what you like.'

I thanked him for very kindly getting me out of a bad mess. As I opened the door he shouted to me:

'Do remember my message.'

When the young officer saw my smiling face, he said:

'Well, you are one of the lucky ones; we didn't know what was going to happen.'

Another trip, never to be forgotten, was to the Scillies, where I saw some of the bravest and most melancholy parts of the War. The Scillies were a centre of the German submarine work, and I was surprised to find in the hotel a noisy and merry gang of rather rough young men engaged in a ping-pong tournament under the encouraging eyes of a jolly naval officer and his pretty daughter. But they were peace-time skippers of trawlers, amateur yachtsmen, and so forth, ashore for a few hours from patrol duty on the trea-

cherous and stormy seas. I do not know the mortality amongst them; it was very high. And I saw two sad boat-loads coming in from a torpedoed steamer, full of civilian passengers, some dead and all drenched.

Whilst I was in London, there was more than enough to do at the War Office. Once, and sometimes twice, a week until the middle of 1918 I had late duty, which consisted in waiting until two or three in the morning to receive messages that came by wire or by 'phone from any of the 'fronts' and deciding which could wait until the morning and which must be sent at once, according to their nature, to a long list of important persons. Sometimes it was exciting; generally it was very dull. Sometimes an officer from another branch would drop in to chat; sometimes I worked, and amongst other things amused myself by translating and adapting a French play (see p. 190). By day there were 'jackets' asking for comments on some proposal, or persons seeking exemption from military duty to be interviewed. As a steady task I set myself to examining all the contraband literature, chiefly German propaganda, that was sent to the department, and finding that it often related to places and subjects of which I knew nothing, I got most of the British publishers to send me copies of their books. In the end I compiled a manual of eighty-one closely printed folio pages, arranged geographically under the names of the countries and places concerned, giving the simple facts, and then a summary of the enemy's propaganda. The War Office distributed it to the Intelligence Departments on all the fronts, and it is now rather a rare and coveted publication. In the course of that work I selected a hundred sentences of extreme German rodomontade, which we had translated into many languages and circulated on a wide scale.

The chief work of the department in which I was engaged was general propaganda, but before long I concen-

trated on propaganda for distribution on the German fronts. The difficulty arose that the use of aeroplanes was forbidden, as on two of our captured machines leaflets had been found deemed personally offensive to the Kaiser, and we had been informed through a neutral country that any airmen captured with similar matter in their possession would be shot. In fact, however, aeroplanes were unsuitable when the object was not to dump a large bundle in a particular area, but to scatter single leaflets, and it was not until the morning of Armistice Day that I had devised a system of packing leaflets in such a way that with one motion of the airman's hand a packet could be thrown out, to break into a fluttering cloud. A good deal of my time came to be occupied with consulting manufacturers, physicists, and balloonists on devices of scattering sheets approximately in the areas we wished to reach. By experiments in this country we got the working basis that in a favourable wind of about ten miles an hour, 150 sheets released at a height of 2500 feet, came to ground two miles off over an area of 500 yards. We had to find out the kind of free balloons to use, arrange for their manufacture, test how they were to be inflated and weighted to suit the conditions, and how to fix and arrange the mechanical or fuse or time releases to distribute the leaflets as we wished. I had many exciting trips to France, to explain our devices and to watch how they worked.

In February 1918 the Prime Minister appointed Lord Northcliffe director of propaganda in enemy countries. Sir Campbell Stuart, in *The Secrets of Crewe House*, has told, dramatically, the history of that enterprise, also Mr. Wickham Steed, in *Through Thirty Years*, with a vivid but meticulously historical pen. For some months the activities of Lord Northcliffe and his advisers were absorbed by their strenuous and successful political campaign on the Austro-Italian front, but about the middle of the year they began

to work against Germany. As any propaganda they wished to distribute on the French front would have to be sent through the Army or the Air Force, Lord Northcliffe applied for a liaison officer. I was sent for and asked to act. I was inclined to protest. I was accustomed to the War Office and the War Office to me. Many of the officers with whom I was associated had become personal friends. As a civilian, ignorant of the Army, I had expected to find Staff Officers formal, narrow-minded and unreceptive apart from their professional side. In fact, they were as able as any other set of professional men I had come across, and with an almost deferential respect for knowledge that was outside their sphere. And I thought that the department in which I was working was doing good service. But it was put to me that Northcliffe was very powerful, certain to give trouble, very critical of the Army methods, and that I, as a civilian, might get on better with him than a regular officer. Also that they wished me to go, but did not wish to order me to go. And so I went, taking with me as secretary-stenographer a young lady who had been our chief confidential typist for several years in my department at the War Office.

But there were no difficulties. From my first interview Lord Northcliffe was courteous and reasonable, and when now and again his wishes could not be carried out, he listened patiently, almost sympathetically, and never made trouble. He did not interfere with any details at Crewe House, always accepting the policy of his advisers, but used his immense influence—for at that time he was the most influential British subject—in smoothing the way with Cabinet Ministers and other politicians, and his almost uncanny sense in contriving modes of publicity. Campbell Stuart and Wickham Steed, whom I had not known before, received me with open arms. Campbell Stuart, like Northcliffe, did not concern himself with policy, but had a gift for organisation, from arranging the details of a journey or

luncheon to the management of a big conference, and the knack of making everyone feel that his presence was a pleasure and a necessity. Wickham Steed was the heart and soul of Crewe House. It may be that sometimes his judgment was wrong; it was true that his long residence abroad and his intimate knowledge of the statesmen and journalists of Europe had dulled his sense of the reactions of the insular British mind to what seemed to him the plain facts of a case. But he had a passionate idealism, a white sense of justice, and a sympathetic power of understanding the difficulties of others. He was a marvellous conciliator. He had got together a team of experts, writers, journalists, jurists, historians, persons with special knowledge of different countries, and under his direction Crewe House moved with a common propagandist purpose.

The purpose differed from the immediate object of our efforts at the War Office, where propaganda had been used chiefly as part of the armaments of war. It was short range work, directed to depress, discourage and seduce the enemy, military or civil, to stimulate and give confidence to ourselves and our allies, and to challenge and defeat the propaganda of the enemy in neutral countries. Naturally Crewe House sympathised and assisted in that effort and had formally approved of it, but in fact, so far as the German front was concerned, it was carried out by the War Office, and up to Armistice Day no single leaflet was distributed by the Army over the fronts in France, Belgium and Germany, except those written by the propagandist department of the War Office. Those prepared at Crewe House were not ready for release in time. On the other hand, Crewe House did an important service by arranging in London a private conference of the French, Belgian and British propaganda departments which led to concentration of effort and the avoidance not merely of overlapping, but of what had sometimes been dangerous cross-purpose.

But as the year 1918 went on, Steed's conviction increased that propaganda must be a preparation for peace, not part of the mere effort to win the War, but an attempt to convince even the enemy that peace terms could be just and permanent. The first great step towards that was a Departmental Committee, suggested by Steed and arranged by Northcliffe, at which representatives of the War Cabinet, the Admiralty, the War Office, the Treasury, the Air Ministry, the Colonial Office, the India Office, the Ministry of Information, the National War Aims Committee and the Press Bureau met at Crewe House, discussed, and in the end adopted with some modifications a draft of peace terms which had been prepared at Crewe House. On October 15, 1918, Northcliffe took Steed and myself to Downing Street, went in and had a few private words with the Prime Minister, and then left us with Mr. Lloyd George. Steed, in *Through Thirty Years*, has already given an account of that interview, and of our complete disillusionment as to the psychology of the Prime Minister. The salient words were almost exactly this:

'I can't have anything to do with this. The Germans are going to surrender. I am a lawyer, and can tell you that possession is nine points of the law. We shall have them in the hollow of our hands.'

We argued, and after a few minutes he agreed that we should take the terms to Lord Balfour and Lord Reading, and that if we could persuade them, the terms might be used unofficially as the basis of propaganda. They did agree, and next day the Cabinet accepted them as the basis of propaganda.

They need not be printed here, as they were published in *The Times* on November 4, and, much later, in the article 'Military Propaganda' in the twelfth edition of the *Encyclopedia Britannica*. They were to be used at once as the basis of Crewe House Propaganda. But events were moving

quickly, and I thought that a rapid effort must be made. One evening, towards the end of October, I sat up most of the night drafting a statement introductory to the peace terms. Next morning I showed it to Steed, who very naturally approved, as it was written entirely on his lines. The Crewe House Committee went through it and made a few alterations, chiefly verbal, and decided that we should ask Lord Northcliffe to give it wide publicity under his name. Next morning we went into his room. He said at once with a smile:

'I hear that I have been guilty of another great effort. Let me listen to it.'

We sat down and Hamilton Fyfe began to read it out. Lord Northcliffe lay back in his chair with his eyes shut. I watched him anxiously to try to interpret from his expression how he was taking it, but got no clue. Hamilton Fyfe finished. At once Northcliffe sat up and said:

'So-and-so will take it in Melbourne, so-and-so in New Zealand, so-and-so in Canada,' and so on, mapping out a complete scheme of the modes of getting world-wide simultaneous publication, and then added:

'And that means, Steed, that you can arrange for *The Times* to print it on November 4.'

I don't suppose he had listened to a word of what was being read, but had worked out his publicity schedule to the minutest detail!

Chapter XV

The Golden Journey: Cairo to Khartoum 1920

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On Monday evening, January 6, 1920, the Orient Express was about to leave Paris. The loud-speaking trumpet had brayed, friends were drawing back from the carriage windows, and I was rejoicing at being left alone in my double compartment. There came a noisy stampede along the platform; the door was pulled open and in bounded a swarthy and vociferous man, shining from his varnished shoes to his glossy hat, and followed by an avalanche of suit-cases as glossy and as shining as himself. The whistle sounded, off glided the train, and I was left in a compartment dense with scent, baggage, and my new companion. Rapidly he thrust one valise under my feet, another in front, a third over my head, and he was still waist-high in packages.

'You have no right to bring all these into a sleeping-compartment. I won't have it.'

'But what am I to do with them?'

'Throw them out of the window!'

His smile was so quick and so friendly to my ill-temper that at once I began to help him to stow them away. He was a Syrian Arab, educated at an American college in Palestine, speaking a little English, and French better than mine, a fruit-merchant on his way to Alexandria, to be my companion for at least a week.

To share a two-berth sleeping-compartment is a discomfort; with a stranger it may be pestilent. But the Syrian

agreed to rules and observed them, and before we reached Trieste, several hours late, at three in the morning, we were fast friends. 'There is going to be trouble here,' he said, as the train drew into the crowded platform. 'Let me see your passport.' I handed it over. It was of pre-War date, and during the War a second portrait of myself in a captain's uniform had been added. After a swift glance at it, he said, 'Sit still until I call you. I will arrange', and whipped out his silk hat and put on white gloves. The train stopped and spilled out a babel of passengers into a babel of Italian officers, soldiers and officials. The Syrian leapt out and in the twinkling of an eye had his own baggage and my small valise put on a trolley, and then, silk hat in white-gloved hand, he bowed me out of the compartment, and displaying my open passport with the military portrait visible, crying out: 'Par ici, mon Général, par ici!' he backed and bowed me, himself, and the baggage, through an avenue of saluting officials, out of the station, into the only cab, and in the end into the last rooms at the hotel.

Even at noon, when, bathed and shaved and changed, we drank coffee in the lounge, the room was still full of soiled travellers, dozing in chairs alongside their baggage, waiting until the *Helouan* would receive them. But the *Helouan* was not to sail for Egypt until nightfall. The Syrian glanced round:

'All right; very dam good! Now you help me, please?'

And so, passport in hand, we went to several dingy offices, where, after torrents of Arabic, his friend, the British General, testified to his standing in the international fruit-trade, the esteem in which the King of England held his bananas, and God knows what else. And then, trysting me at the ship, he went about his business, a certified magnate.

After luncheon I explored the town. It was a grey winter day, and Trieste was grey and sulky, not yet cleaned up from the War, an unhappy mixture of Austrian, Czecho-

slovak and Italian distrust. My quest was for cigarettes, at first hopefully for English cigarettes, and then for cigarettes of any brand. But there were no cigarettes and no matches in Trieste, until, in an empty café, a waiter was so cheered by a few words of German that he produced for me a battered tin of 'Three Castles'.

Going down the lovely Adriatic we got into summer again, although later on there was snow on the hills of Greece. We had a few hot hours at Brindisi waiting for passengers and nearly a day in the splendid inner harbour of Taranto, refuelling. The ship had many cabin passengers, most of them persons who had been detained in Austria or Germany during the War and now had permission to return to their Egyptian homes. But there was a pleasant Englishman, whom I liked but could not place. After three days of steamship acquaintance, I asked his profession. He was the head of a firm in the Midlands, manufacturers of beds.

'But surely it doesn't pay you, the head of the firm, to come all the way to Egypt to sell beds.'

'If it interests you, I'll show you some of my designs.'

'Designs?'

'Yes. Every time a pasha takes a new wife, he must provide a new bed, more magnificent than that of her predecessor. I'll be content if I sell three or four, but as I haven't been able to come out since the War, I hope to sell a dozen.'

Certainly the designs were of a baroque splendour.

During the five days on the ship I talked, read and wrote and joined in a poker party convoked by my Syrian friend. It consisted of two Levantines, one of the officers, the Syrian and myself. It was vociferous and disputatious, chiefly because the Syrian had a new rule for most of the phases of the game, but very little money changed hands, and even that was spent on an excellent white Cape wine.

We reached Alexandria early on Tuesday, February 3.

The night before my Syrian friend took me aside and warned me against Africa, south of Cairo. Up there were lions, were crocodiles, were armed and cruel blacks, a sun that smote, and desert dust that smothered. I was not yet so old that life was to be thrown away. Why should I not stay with him in Alexandria and help him to open up the English market in currants? To his real disappointment, I was deaf to his warnings and inducements. He was a good fellow, foreordained to success, but possibly a dubious partner.

Alexandria has the air of a French provincial town, and I passed my two or three hours along the curve of the sea, conjuring up Pierre Louÿs's reconstruction of its ancient splendour. The restaurant train to Cairo is like any international express, except that the roads along the rich valley are thronged with camel and donkey transport. At Shepheard's hotel in Cairo, Merton, *The Times* correspondent, met me, and presently Cockerell and Broome arrived from the aerodrome at Heliopolis, in high spirits, but already a little grave over engine-trouble that was to delay our start until Friday.

It was nearly full moon, and after dinner we took a taxi to the Pyramids and the Sphinx—a taxi to the Sphinx seemed more incredible even than London taxis to the firing-line during the War! Near the great pyramid of Cheops we had to walk. The moonlight marked out the huge blocks rising in regular courses one above the other, the single blocks becoming smaller until they reached the remote triangular apex. For all its symmetry, the pyramid seemed inhuman, not made with hands, a relic of ruder forces. As we walked, our footsteps were muffled in the soft sand, and I recalled the awed surprise of Mariette (cited by Loti in *La Mort de Philae*) when on entering the untouched tomb of an Apis, he saw on the sand the prints of the naked feet of the last Egyptian who had come out of the

tomb thirty-seven centuries before. And so in a dazed dream I came on the Sphinx, bathed in a light which softened its time-worn contours and yet increased or created its spell. Certainly it fixed me as a snake is supposed to fix a bird. Surely Croce was wrong in saying that the significance of a work of art was subjective, the observer creating its beauty or wonder or awe. But perhaps Croce was right, or the twentieth century A.D. suddenly exorcised the past. Some British nurses and soldiers, also on a moonlight visit, had identified the Sphinx, and then, their backs to it, had settled down in a hollow with sandwiches, bottled stout and a gramophone.

Wednesday and Thursday I spent in Cairo whilst the pilots and mechanics, with friendly aid from the air-station, were overhauling our engines. My old friend, Major Stanley Flower, showed me over the Zoo, in the garden of a pasha at Giza, but it is surprising how like one zoo is to another.

Cairo in February is a city of steel-blue skies with white clouds hurrying south, soaring kites, mosques and little semi-tropical gardens. But it is also the city of the museum in which, in glass boxes, in an upstairs hall, are the stripped mummies of priests and kings, of princesses and still-born babes. It is an exhibition not to be forgiven, and now I think, rightly closed. The reaction may be the gaping horror of the tourist or the revolted pity of Loti, but in the one reaction or the other, even in the lovely pages of Loti, there is an undercurrent—'I like being frightened.' It is an inheritance from our monkey ancestors. Charles Darwin relates that when he took a basket holding snakes into a monkeys' cage, curiosity brought the animals down to raise the lid. They fled away, screaming and chattering. But one after another crept back to have another peep, and another thrill. They liked being frightened.

On Thursday I found at the hotel the following letter

from Lord Milner, together with an invitation from Sir Rennell Rodd to dine with the other members of the Mission.

3.2.20
Special Mission to Egypt,
Semiramis Hotel,
Cairo.

Dear Dr. Chalmers Mitchell,

I am so sorry, that, being absent from Cairo for a few days, I *may* miss you when you arrive at this stage of your adventurous journey.

I can't tell you how much I admire your enterprise or how warmly I wish you a complete and triumphant success.

I am sending a telegram to Cairo, which will be dispatched to *The Times* as soon as you arrive, and of which I enclose a copy. This is not flapdoodle. It is a sincere expression of what I really feel about the Imperial importance of this fine piece of pioneer work.

I enclose a letter for the Governor-General of South Africa. If, as I doubt not, you are able to deliver it, I think the fact of my having sent it through you, from Cairo to Cape Town, should be made known. It would help to emphasise the value of your achievement.

Yours, with heartiest good wishes,
MILNER.

The dinner was in a private room at the Semiramis, and became even more pleasant when J. A. Spender, who sat next to me, told me that as the Special Mission was not entirely popular in Cairo, the windows were protected against rifle-shots by sheet iron. I liked being frightened.

At half past nine next morning, Friday, February 6, Merton and his wife called for me at the hotel, and in a few minutes we were on the aerodrome at Heliopolis, amidst a crowd waiting to see the start of the first aeroplane from Cairo to the Cape. Captains Cockerell and Broome gave a

laughing good-bye to the air-officers who had toiled to get everything ready, and climbed into the high pilots' seats. The mechanics swung first one engine and then the other until the roaring settled into a sweet purr. Corby climbed into the door at the front end of the cabin; I shook hands with Lady Rodd and Mrs. Merton, received a white slipper for luck, and climbed in. Wyatt folded up the steps which formed the door, locked me in, signalled to the pilots, jumped into his own door, and lay down with his mate on the heap of valises and petrol tins which separated them from my seat. The engines roared and a slight bumping turned into a rush; the plane of the ground tipped up until the horizon was far above my head and then revolved slowly on its own axis, stopped revolving, became horizontal, and the aeroplane itself was now moving in a straight line south. Far below its black shadow was hurrying over the white ground, leaving behind the antlike figures on the drome and the toy houses of Heliopolis. By ten o'clock we had passed the great pyramid of Cheops and its smaller companions, but I could not see the Sphinx, even with strong field-glasses, and to my disappointment began to realise that because of our speed I could not focus on objects on the ground.

The Nile valley widened out, the grey-blue river twisting like a snake between the green fields. On either side was a ribbon of golden sand, and then red-grey hills on the horizon. We left the Nile to our right and passed over the desert with black, flat-topped islands descending to the yellow sand by steep tiers of cliffs. For the next hour our straight course took us now over the desert, now over hills, now over the green valley and blue river, and each time we changed from one surface to another the plane shied and bucked. Once or twice, after an uncomfortable bout, Broome waved a reassuring hand to me through the window separating his seat from the cabin. But after the

second transition, I had guessed the cause of the trouble, and was quite happy. The mechanics were fast asleep. We passed many walled villages, the houses flat-roofed, or with domes looking like apples in a box, and where a village was on the edge of the desert, a trail of odd, low buildings stretched far out into the sand. Afterwards I identified these as graveyards with their pillared and domed tombs. Irrigation channels divided the cultivated ground into fields of vivid green, brown, or violet, and now and again a dry rectilinear patch was filled with branching veins, like the skeleton of a leaf. We shared a lunch of sandwiches and claret brought from Shepheard's. At 12.30 we passed Assiut, and the valley began to narrow. On the right were tall cliffs across which our course lay, but, following the map, I noticed that we swung round, taking a long bend of the river until some fifty miles further on we reached Luxor. I was to learn that our first trouble had come. Cockerell had noticed that the temperature of the port-engine was rising and had decided to come down. At Luxor we missed the aerodrome, as indeed the pilots had failed to see every drome marked on our route map since Cairo, but, just beyond the town, Cockerell saw a small circle, which was the unobliterated mark of a discarded drome. The surface was appalling, with ridges and hollows so serious that something had to go, despite Cockerell's skill. Fortunately it was only my seat which crashed in. It was pleasant to get out and smoke, as we had been five hours in the plane, although the delay was vexing. A cylinder jacket was leaking, and whilst Wyatt and Cockerell were patching it, four Arabs appeared as it were out of the ground, and with them as guides Broome and I went off with canvas buckets in quest of water, which we got from a wheel with pots suspended at the rim, turned by a pair of small humped cattle. A little before four, we were in the air again. The plane rolled and bumped in a strong wind which was blowing the

sand into the hollows or over the fields, exposing black rocks. About five we had alighted on the splendid Assuan aerodrome, and were soon spinning down a little trolley-line the three miles to Assuan station.

We had breakfast at seven, and went out on a trolley to the aerodrome. The mechanics said that they hoped to finish in a couple of hours. Cockerell, Broome and I, with Captain Lloyd, in charge of the aerodrome, took a shot-gun and climbed a rocky valley to the west. There were tracks of jackal and foxes and of what at the time I thought to have been wolves, but which no doubt were the footprints of dogs from Assuan. We saw no living creatures, except that when we lay smoking under a rock a small yellowish-white vulture came down to see if there were anything doing. We came back about eleven, but the start was still two hours ahead. The railway from Assuan to Wadi Halfa lay alongside the drome, and Lloyd stopped a train and sent in a message for lunch, which arrived on donkeys about one. The four of us, with the two mechanics, sat on petrol tins, waited on by an Arab in white, with a napkin under his arm. Then there was another consultation, and as it was clear that there was no chance of starting in time to make even a short stage before dark, I went into the hills to the south-west alone. One or two flies, about the size of horse-flies, attended me, but there was no other trace of animal or vegetable life. Huge masses of red granite protruded at the lower parts of the hills, the upper parts of which were coarse, stratified sandstone. A strong wind from the north was blowing, driving the sand stirred by my footsteps. The pebbles were as polished as those of a sea-shore or a mountain-tarn, and the bare surfaces of the rocks were flat. Most curious were the perched boulders, of which there were hundreds, some like monoliths resting on rude columns, others propped on tiers of three or four smaller stones. The sand had been blown from under every boulder, leav-

ing only the heavy props. It was the first time I had realised the efficiency of wind denudation, acting through dry centuries. On the top of one hill there was a rude fort, a circle of boulders surrounding a dug-out and a great litter of broken pottery, the remains of water-jars.

On returning to the aerodrome, I found that the best we could hope was that the mechanics would finish their repairs before dark. We decided to go to Assuan for dinner, returning early with dinner for the mechanics, sleep at the drome, and start at dawn. Cockerell and I walked from the hotel to the great dam, and coming back in the dusk, passed the white walls of the huge English military cemetery, and then the long native cemetery, straggling out into the desert and occupying more space than the town itself. After dinner, the moon had not yet risen, and we had an eerie ride on donkeys back to the drome, passing through another native cemetery in which jackals were scampering and squealing. Lloyd came with us, bringing his sleeping bag, as he was determined to see our start. The moon rose as we reached the drome and the mechanics, who were fast asleep, gladly woke up for their food and drink. We made a screen of petrol tins against the cold north wind, arranged the sleeping bags in a row and soon were settled for the night. As I had had no work to do, I undertook to arouse the party at five, an hour before dawn. I dozed a little, but spent most of the night smoking, wondering at the brilliance of the moon, and seeing from time to time the swift shadows and shining eyes of jackals which came close up to us.

At five I aroused the others. It was chilly, and Broome put the case well when he said that we were all right, but not yet chatty. As we had no water to spare, we avoided the discomfort of washing. I packed up the sleeping-bags, Cockerell, Lloyd and the mechanics got ready the engines, while Broome, who had Australian experience, made a fire,

swung a billy, in which eggs were boiled and tea made, and the six of us sat down in a circle round the fire, cursing the smoke, which blew in every direction. Daylight came a few minutes after six, and before half-past six the sun lighted the rim of the western hills and the tropical day came rushing across the desert towards us. There was a struggle with the engines, but by seven both were roaring, and in a few minutes we were in the air wheeling to the west over Assuan and then heading south. We reached the Nile and passed over the great dam full to the brim, with submerged palms rearing their fronds above the water, but nothing that I could recognise as the temple of Philae.

With the brisk north wind behind us the pilots decided on a compass course to Khartoum. At first we followed the Nile closely, here a wide river with the desert up to each bank, submerged palms showing that the margin of cultivated land had been covered. To the east, the land rose steeply in rough contorted hills with fjord-like branches of the valley running into the desert. Soon after eight, we left a loop of the Nile on the left and passed over a flat desert of sand with molehill rocks fifty to a hundred feet high thrusting their black points through the sand. At eight o'clock we crossed the Nile again, still in flood beyond the palm-fringed banks, a ribbon of blue threading an endless desert of golden sand flecked with black rocks.

Soon we left the river far to the right and headed south over wind-denuded country with black hills even more numerous. The aeroplane began to heave, the country became rougher, and the high cliffs of the Nile valley lay on the distant western horizon. By half past eight the hills had become mountains a thousand feet high, and we seemed to graze the deeply-pitted and corrugated bare surfaces. The air was bumpy and gusts of wind rocked the plane. At half-past nine we came over a flat desert of golden sand, with, to the far east, sets of long black ridges stretching from north-

east to south-west, and before ten we came down on a fine aerodrome near station 6 of the railway from Wadi to Khartoum. The engine had been heating and it was soon clear that yesterday's trouble had repeated itself, but in another cylinder of the same engine. Long afterwards we knew that these troubles, which were to wreck our journey, came from a difference in the expansion rate of the material cementing the water-jackets to the cylinders, causing innumerable, almost invisible, leaks. The water escaped, the temperature rose, and unless the pilot speedily found a landing-place, the seizing of an engine would bring the heavily-laden plane to disaster.

In a few minutes Arabs began to run towards us, followed by the station-master, an Egyptian who spoke English, and a foreman who spoke French. They sent for water, and Wyatt began to bind the leaking joints with insulating tape. We photographed the Arabs, and Broome brought out the cinema and to their great delight took a film of a war dance. Far to the east was a long black ridge, which the station-master told me was the site of a gold-mine now unworked. Still more interesting to me was a mirage, the hills only a few miles away, standing in a lake!

Before eleven we were in the air again. On the east lay a flat sandy plain with high ridges running north-east to south-west, and on the west high isolated hills. We crossed a rough ridge, and after a long lean desert, crossed the Nile on the northern limb of its huge western loop. We were making good progress, at the rate of at least 100 miles an hour, and hoped to be in Khartoum by two o'clock. After a stretch of level sand, at 12.15, and well within the western loop of the Nile, we reached a high and irregular set of hills running due east and west. In the middle of these lay a great plain of what seemed lava, looking like grey toffee poured out on a plate. From this rose a number of craters, two very large, one having a sandy interior with thorn

bushes, the second with a smaller peak and crater inside it. There could be no mistake about the formation; the crater rims were as sharply depressed pustules as the craters on a good photograph of the moon. The aeroplane was rolling and pitching at its worst, but we had the excitement of seeing a volcanic area where none was known to exist. At Khartoum next day Graham, the Government geologist, told me that Sir Herbert Jackson had sent him three pieces of tufa, obtained in the Nile Valley fifty miles away, obviously carried there by water in a not very remote period, and that he had suspected the existence of an unknown tertiary volcanic field in that part of Africa. My friend J. W. Gregory, a geologist who had paid special attention to the Rift valleys and the physical geography of Africa, was inclined to think that a volcanic upheaval, of which my craters were the surviving traces, might have been the cause why the Nile, running north along a branch of the Rift valley to Abu Hamed, abruptly bent backwards to the south and west, forming the western arm of the great loop which passes through Dongola to resume its northward course at Wadi Halfa. Graham has since actually visited the craters, but I understand that their geological significance is still under dispute.

For the next fifty miles we crossed flat sandy desert with a network of dry water-courses marked by thorn bushes. At 12.50 we turned east-south-east, crossing a huge field which I thought at first to be lava, but as it was traversed by veins it was probably gneiss. Then we turned south over a plain of sand, showing many rounded islands of black rock and here and there dark areas barely covered with sand-like reefs at low-tide. At half past one the Nile was again visible, far to the east, but the aeroplane suddenly changed its course and began to quarter the desert. The engine was heating again, and Cockerell with difficulty found a landing place in a huge rectangle of blown sand, enclosed by lines of scrub. Another water-jacket was leaking badly—the

third from our start—and Cockerell hoped that Mr. Rolls-Royce's rabbits would die. I went to look for water, apparently an unpromising task as we were at least four miles from the Nile. But I found a native path with camel droppings in one of the rows of scrub, and after some time noticed a native peering at me from behind a bush. After a friendly grin and a cigarette from me, he came back nearly to the aeroplane, and Broome, coming to meet us, brought canvas buckets and explained somehow what was wanted. And then natives, men, women, and children, began to arrive from all sides. They were friendly and very curious. In due course water arrived, we shook hands with the natives, gave them cigarettes and some silver coins, and were in the air again by four-thirty.

In a few minutes we reached the Nile, which shone in silver loops, winding through a broad green ribbon. The railway was visible, we passed over a well-marked aerodrome at Shendi, and headed straight for Khartoum, saw the railway bridge and came down on a great plain on which was the aerodrome. Captain Cullen, air-officer in charge up to Mongalla, Mr. Williams, the Government engineer, and Mr. Birch, manager of the Anglo-Egyptian Bank and *Times* correspondent, were there to welcome us. We had been expected since two o'clock, but a great crowd which had been waiting to see the first aeroplane which had come direct from England to Khartoum, had given us up at five. Transport was waiting, and in a few minutes the mechanics had been sent off to the sergeants' mess, and we were taken to Mr. Williams's bungalow, where we had baths and a change. There the Governor's aide-de-camp brought us an invitation to dine at the palace, but accepted an excuse, as we were thoroughly worn out, and wished for nothing more than to get to bed. Soon we were in Mr. Birch's house, and after food, were all in bed.

Chapter XVI

The Golden Journey: Khartoum to Mongalla 1920

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Next morning we went to the aerodrome early. Captain Cullen and Mr. Williams had already given the mechanics every assistance and had arranged to run an electric wire out to the aeroplane so that work could be continued after dark. Cockerell settled down with the mechanics and Broome and I overhauled the stores. We had our sleeping-bags and small valises, a billy, a frying-pan, five aluminium cups, a large thermos, four gallons of drinking-water in a petrol can, a bottle of brandy and of whisky in the medical stores, and a bottle of gin as a luxury, a few tinned tongues, a bag of rice, which was also my seat, some tins of preserved fruit and rusks, as well as numerous spare parts. Cockerell came to survey, and at once made a ruthless slaughter of spares and impedimenta. Captain Cullen had told him that for the rest of the journey, the views of the Air Ministry as to what petrol stores existed were at the least optimistic. And so nearly everything was scrapped in favour of carrying more petrol.

A message came out to us from Lady Stack, inviting us to luncheon at the palace. With that pleasant interlude I spent the day seeing Khartoum. It gave me the impression of a splendidly planned city, arrested in its development, and I heard much of the extreme carefulness in expenditure of the Financial Secretary, although at that time the receipts from most of the provinces showed a handsome surplus over expenditure, and even the Game Preservation Depart-

ment was more than earning its keep. The palace in a lovely garden was beautiful, there were a number of good houses but very few shops, and at that time the only well-built hotel was closed. I spent many hours in the Gordon Institute and the Wellcome Laboratories, institutions so well equipped and well staffed that it was marvellous to come to them in the remote Sudan. But what surprised me most was the museum of local antiquities, as I had no idea that Egyptian civilisation had reached so far south. In particular there was an exquisite, almost Buddha-like statue and some lovely enamels and ornaments. Another pleasure was the drawing-room in which Arab draughtsmen were engaged on technical engineering and architectural designs and blue-prints. Twice, at an interval of many centuries, civilisation has reached Khartoum from the north, the earlier, probably, bringing only art and luxury to be enjoyed by the masters, the later, more utilitarian, a resolute endeavour to bring the fruits of science to the people. I haven't been to Khartoum since, or to Uganda, Kenya or Tanganyika, but to my inevitably superficial comprehension, there seemed a contrast between the orientation of government in the Sudan and in East Africa. In the former it was towards the betterment of the natives, in the latter towards that of the European colonists. And such grumbles as were freely made to me by Europeans, were, in the Sudan, that not enough was being done for them, and in the south that too much was being done for the natives!

Next morning (Tuesday, February 10) it was chilly and cloudy as we drove in the dark along the parade past the palace to the aerodrome. Dawn was just breaking, but there was a crowd to see us off. The engines gave trouble, but by 6.40 we were in the air, circling over the palace and then heading south along the Nile. For over eighty miles we followed the river closely. The water, almost flush with the banks, and many long sandbanks, seemed to show that the

river was silting up its bed as it wound through a level plain. Great rectangles were marked off by irrigation channels; there were flocks of sheep and goats, and paths could be traced from village to village. When we left the Nile, the land became barer, and there were no signs of natives, except apparently deserted circular and oval villages. The air became bumpy again and soon we were crossing the Nile in sight of Kosti railway bridge. At 8.50 we saw rather high mountains to the south-east and came down on the aerodrome of Jibelein, or Giblain, easily found because it is close to a group of rocky hills rising like islands from the flat desert. In two hours we had come 209 miles.

At once natives, all friendly, came running to us, and a grave sheik presented an English chit, telling us that although extremely stupid, he was trustworthy and had helped in making the drome. Two bands of women sang us a shrill song of welcome, and presently there arrived a handsome young Arab in a dark blue robe, plainly a person of importance, who offered ceremonial coffee and welcomed us in soft English. He was Sayd Mohamed el Mahdi, on the mother's side a grandson of the Mahdi, and son of the Khalifa Abdulla, killed by Wingate's men at Omdurman. A small leak was discovered and patched, and water was brought. Before we left, Bethel, a young English inspector, arrived on a camel and told us that we had been expected for several days, flares being lighted for us at night, and that Sayd Mohamed had killed a sheep in our honour. But we were anxious to get on and by 10.20 we were in the air again. In half an hour we had gone more than fifty miles across a huge plain traversed by the swampy Nile with thick scrub to the east coming up to the swamps. Suddenly one engine began to miss and then cut out, and Cockerell had to make a forced landing, fortunately finding a possible place where the scrub was thin and there was much dry grass. It was some distance to the north-east of Renk. Cock-

erell told the mechanics to change the plugs, and the pilots and I forced a way through the bush until we found a native path leading towards the river. Elephant-grass reaching high over our heads and oozy ground stopped us, but later in the day three naked natives armed with spears came up to us, and after a little dubious parley made friends and brought water. None of our party had a word of Arabic or of any African language, but friendly gestures, cigarettes and a complete pretence of confidence on our part always got us through. Always, but once only just, further south. A native lady, plainly a person of distinction, haunted Broome and made very direct suggestions to him. We assured him that it was only our bad luck and his superficial merits that had directed her choice. We told him that to reject her would be a discourtesy and a danger to all of us. He remained obdurate. I reminded him of the saint who thought her virtue a small price to pay the ferryman when duty called her across the river. He was obdurate. I gave him a masterly summary of Maupassant's 'Boule de Suif'. He was still obdurate. Why we were not all speared, I don't know.

We lunched on sandwiches and tried the new plugs. They were no better. The magneto had to be taken down and was found to have burnt out. Clearly we should have to camp. I went off to the Nile and had a long and delightful afternoon in a green paradise of birds. There were wood ibis, marabou storks, great grey herons, wild duck, some fishing eagles, large kingfishers—black and white and blue and green, rollers, kites, white-chested crows and traces of large animals in the mud. I then returned, torn by African thorns, as every plant was armed. Broome and I got one of the natives to go out with us in quest of food. We got some pigeons, and, at the request of the native, Broome shot and handed over a black ibis as a reward for the help given us. Then Broome and I spent a laborious hour collecting firewood. There was a cheerful incident. I had wandered a

little further off and came on an isolated tall tree, perhaps a hundred feet high, dead and dry, festooned with dead and dry creepers. How about putting a match to it? An unresisted temptation. The tree went up with a roar; I had to leap back wildly, pushing off the rain of sparks from what was probably the most superb bonfire the world has ever seen. Broome came rushing to me, followed at two or three hundred yards by Cockerell and the mechanics, all cursing me until they too rejoiced in the fiery splendour.

When darkness fell we decided to have our only bottle of gin, all of us being tired and a little alarmed at our future prospects. We shared it in our aluminium cups, diluting it with tepid and nasty Nile water. Meantime I had dressed the pigeons, and Broome's stew of pigeon, rice and tinned tongue, washed down with tea, made an excellent meal, which we took sitting round a fire. At eight o'clock we arranged our bags in a half circle to windward of the fire, the mechanics as usual sleeping inside the plane. Broome undertook to keep the fire going until midnight, and then to hand it over to me. Several times during my vigil I heard what seemed to be the trumpeting of elephants and the roaring of lions, and once I started out of a doze thinking I was in my room at the Zoo. I dismissed these as idle fancies, but later on Sayd Mohamed asked where we had slept, insisting on tracing the spot on the map, and then said gravely that we had been fortunate as it was extremely dangerous because of elephant, lion, leopard and buffalo.

When I awakened them in the dark before six next morning, there was a bitterly cold wind. We had breakfast of tea and cold tongue, and at 8.30, when the engine had been running well for ten minutes, a spray of water from a cylinder-jacket dashed our hopes. We had an anxious consultation and decided to go back to Jebelein, as unless the engine would take us at least that distance we were in Queer Street. We got there in less than an hour, and Cockerell, re-

membering that the real drome was six miles from the village, found a flat area just outside it. Mr. Bethel met us and offered to send a camel to the telegraph office at Kosti. We were all feeling low and it seemed clear that the journey must be abandoned. But if we were not to leave the plane derelict at Jibelein, it would have to be patched up to take us to Khartoum. We decided to stay until the cylinders had been patched up somehow. The mechanics got to work and Bethel took the pilots and me to the rest-house he was occupying in the village. It was in a small compound, surrounded by a high wall of wattles and stakes, near the river. It consisted of a thatched mud hut with small unglazed windows and a larger wattled hut divided into a cooking-room and a living-room. We hired Arab bedsteads for our sleeping-bags and a tent for the pilots, I deciding to sleep in the open under the lee of the stockade. We used the mud hut as a bath and dressing-room, and as the north wind roared through it, to shave and to bathe were penances. In the afternoon I had a great climb on the nearest hills. For the first two hundred feet there was an almost smooth causeway of wind-polished stone, potholes with pebbles rounded by the wind, and, higher up, granite boulders piled in fantastic confusion, the wind having blown away the sand from every crevice. In a hollow near the summit there were thickets of dried thorn-trees and abundant traces of rock rabbits (*Hyrax*). I was curious to find out on what they fed in that barren island of rock, separated by miles of sand from the nearest green area, but found that they dug deep into the ground to gnaw the roots.

In the afternoon Sayd Mohamed el Mahdi came to call, dressed in a blue robe, white turban and red sandals, and a waistcoat of embroidered Syrian silk. In the three days we had to stay at Jibelein I saw much of him in the rest-house, and in his own house. I found him a courteous host and a most delightful companion. It was difficult to believe that

that cultured gentleman was the son of the Khalifa Abdulla and the grandson of the Mahdi. Before dark he brought a native tracker and took Broome and me out to shoot for the pot. He had no gun, and I guessed from his face that he too wished to shoot. And so I gave him mine, taking a camera instead. He handed over his blue robe and embroidered vest to the native, and the slow and stately prince at once turned into the lithe, white-clad body of his gun, as the coils of a serpent are the instrument of its striking head. He got most of the guinea-fowl which supplied our table for the next two days. Broome was a good shot, but he was a man with a gun; Sayd Mohamed and the gun were a single body of death.

Before dinner, Sayd Mohamed's private band came to play for us. There were two performers, using the voice, a flute with stops, and a dry gourd with seeds or stones. Many years later when Marguerite Steen arranged for my party a Flamenco evening in the Albaicin at Granada, I thought I was back in the rest-house at Jibelein.

Next morning after a good night, disturbed only by the bellowing of what was probably a hippopotamus, Broome and I climbed a taller hill and saw abundant traces of rock rabbits and the track of a leopard. In the afternoon I wrote until it was cool, and then went out with my camera, seeing many monkeys and the tracks of hippo in a thick piece of bush some miles down the river. The gunboat *Sheik* arrived to stop until dawn on its way up the river, carrying munitions for a patrol against the Dinkas. The officer in charge came to dinner and was gloomy about our prospects if we had to land in the Sudd. Next morning (13.2.20) the mechanics came to breakfast, bringing the bad news that the cylinders were still leaking. The trip seemed over, and we discussed going back to Khartoum by boat. Then I had a brain-wave. The cylinder-jackets did not hold much water; we might rig up some tubing and pump water into

them, to replace leakage whilst we were in the air. Cockerell and Broome howled with laughter and said that so mad an idea could have come only to one who knew nothing about aeroplanes. But I noticed that something was going on in Cockerell's mind, for he was an able mechanic as well as a daring pilot. 'You will take the risk?' he said. 'And you?' Broome and the mechanics grinned. Then Cockerell rigged up a device with two empty petrol tins, tubing, two valves and the tyre pump. We filled the cans with water, and in the air when the pilots signalled to us that the temperature had risen close to danger-point, the mechanics and I pumped water from the cabin direct into the cylinder jackets. We called the apparatus the Mitchell-Cockerell-Heath-Robinson temperature regulator, and it took us through the Sudd.

Sayd Mohamed came later in the morning and asked me if he might bring Ahmed Ombadi, the 'Omda' of the Tasha tribe, to see me, and also begged me to honour him by a visit to his own village in the afternoon. After lunch the Omda arrived, a soft-spoken, very dark elderly Arab in white robes. I was about to motion them into the tent which held the two bedsteads of the pilots; Sayd Mohamed and I were accustomed to sit talking on one of the bedsteads. But he hesitated, and flushed.

'What is the matter? Is he afraid to come in.'

Still flushing, and looking very uncomfortable, he replied: 'It is very foolish; I am sorry I brought him. You see, these ignorant people think that I am a holy man as well as their chief, and they cannot sit with me, and they would not understand if you were to sit with me.' I smiled and took the Omda by the hand and led him in and sat down beside him on one bench, waving Sayd Mohamed to the other, facing us. All was well. We had a long talk, Sayd Mohamed acting as interpreter. After the exchange of compliments, we came down to hard tack, which was the need of better

irrigation for the naturally fertile district. I promised to transmit the request to the authorities. Certainly the heaps of red and white durra on the quay, the bags of gum, the busy market with Arab and Greek traders, tailors at work with Singer's sewing machines, and all the bustle of the place, witnessed a peaceful and industrious population. The natives were mixed, some nearly black and almost naked, but most well-dressed and clean, clearly with a large admixture of Arab blood.

At four o'clock camels were brought, sleek and lean. I had not the pluck to say that except at the Zoo I had never been on a camel before. The camels knelt, Sayd Mohamed mounted one, said something that the camel understood, and as it rose set off at a sharp trot. I followed without initial mishap and then had an anxious time as my beast twisted between rocks, following the sharp curves of the native track. There was only a single rein, on the left-hand side; you steered by tugging if you wished to turn left, or by pressing against the left side of the neck if you would turn to the right. At last, I having somehow contrived to keep my seat, a native village of straw-roofed huts was visible, and all the inhabitants came out and prostrated themselves on the ground. Sayd Mohamed's camel knelt down slowly and allowed an easy descent. I must have given the wrong order to mine, for somehow it shot me over its head on to the kneeling villagers. No harm, except to my dignity. My host then took me to a great central hut lined with couches over which were spread lovely eastern rugs. Coffee was served with sweets and cigarettes, and afterwards my host, remembering the habits of the British, produced a bottle of stout, saying that he had had it for some years. But I was able to refuse it on the plea that in Africa I did not take alcohol until after sundown. The return ride was easier, but to my dismay, at the beginning of the market place Sayd Mahomed bade me farewell, as he had to go in another direction. I

steered through the booths successfully, wondering what would happen when I got to the rest-house. Fortunately a retainer was waiting at the entrance to the compound who passed the right word to the camel, and I descended and went to bathe and apply ointment. I have no doubt that Sayd Mohamed, who had made no comment on my method of alighting at his village, wished to spare my feelings and had hurried off to send a servitor to meet me.

Next morning, Friday February 14, our worst twenty-four hours began. The Arab servants delayed our start, and it was nearly eight when we circled over the village, and headed south along the Nile. We were still over the familiar monotonous level plain with patches of burnt grass and little swamps by the river. At 8.15 we passed the gunboat *Sheik* which had left at dawn the day before. The plain rapidly became swampy, tributaries of the river running parallel with it to end in swamps with huge patches of golden-yellow grass and thick scrub. We left Eliri to our right, passed Malakal, and headed by compass for Duk, our next landmark. It was said to be a ridge with trees, conspicuous above the surrounding country. The air was 'pockety' and the plane rocked and plunged. But we were all in good spirits. The water-device was working well, and we were making progress over the most dangerous part of our journey. I handed out the luncheon of hard-boiled eggs, but the Arabs had cheated us, for they were all bad, and we had to be content with a few currant biscuits. We had missed Duk, but all seemed well, and the pilots took a compass course across the Sudd, intending to strike the Nile again about forty miles north of Mongalla. The scenery was wild, desolate and beautiful. We crossed wide expanses of marsh with small lakes, islands green to their rims, as if they were floating, and sullen patches of scum. There were great grey herons, pelicans and innumerable smaller birds too far below to identify. Brown backs of hippopotamuses

gleamed in the water, and we saw an elephant with her baby suddenly look up as we passed and then plunge into the water. On the far horizon, bush fires raged, and I was surprised to notice that they burnt up wind, the flaming head facing the fresh air, the volume of smoke trailing over the black ground, huge fiery-headed caterpillars creeping into the wind. None of the warnings given us against the Sudd seemed too strong; it was a country from which no escape seemed possible should our engines fail. I began to wonder if I had any right to lead, or even to encourage, my companions towards a peril that was grave.

From my window, like the pilots aloft, I was trying to follow our course on the map. A heat haze and immense volumes of smoke made visibility bad, but none of us doubted but that we would be able to see the Nile, as boats could traverse the Sudd. At 12.15 we crossed a small river, a twisting ribbon of blue in a wider sandy bed. I could not identify it, and was the more disappointed as it did not lead us to the Nile. Presently Broome passed back a note to me. 'Please mark where you think we are on your map and hand it up.' At a quarter to one I realised that we had lost our way, and the pilots were looking for some possible landmark. After flying to the south-east for half an hour, a range of hills became visible to the south-west. We had picked up and had been following for some time a rough track and a telegraph wire running east and west, and at about half past one Broome saw a possible landing-place. In wild country a possible landing-place is not merely one on which it may be possible to alight, but much more a place from which there is a chance of getting into the air again. Cockerell brought us down on a patch of burnt grass. A raging heat streamed down from the sky above and thrust up at us from the ground. We crept under the aeroplane and consulted. All three agreed that we had not seen the Nile; Cockerell and I were convinced that we could not have

crossed a navigable river for which we were all looking, without noticing it. Broome accepted our theory of probabilities, but urged that all the same we must have crossed it, as the only east and west telegraph line lay far to the west of our course. But the maps were not recent and it was possible that there was some other line. The hills gave no help; hills were marked on the map in every possible locality. And we knew we must be near the Dinka country where Stigand had been killed recently.

We had a miserable meal of tea and biscuits, and then redebated. The decision was left to me. I decided to assume that we had not crossed the river. We had therefore to go west and, if we were right, in due course we should reach the Nile and hunt for an indication as to whether we should go north or south to reach Mongalla. If my assumption were wrong, most probably we should come to a trying end somewhere in the Bahr-el-Gazel. Then we found that we were short of water, and dangerously short of petrol. At half past three Cockerell got us into the air, in a storm of black dust raised from the burnt ground, and took us to a rather better landing-place near a creek he had noticed. At first we saw no natives, although each of us thought he had seen spears gleaming in the long grass. We took water-bags, guns and revolvers, leaving Corby on guard with a revolver. We found a native road leading to the water-course which was a sandy river-bed, deeply cut below the surface level, with high elephant-grass towering above it. Soon we came on clear pools, into which we plunged head, neck, and arms, and then filled the water-cans and petrol tins. We had taken an axe to cut a branch on which to swing the water-cans, and I led the way back carrying, as the lightest burden, the axe and a petrol tin, followed by Broome and Wyatt with the cans on a bough, Cockerell being rear-guard with a rifle and a petrol tin. Almost at once some Dinkas came running out, naked and carrying spears. They

stopped a few yards away. We grinned at them. I put down my petrol can and went up to the nearest, shook hands and at once gave him the axe to carry, and motioned to another to take the petrol can. To our great surprise we were relieved of our anxiety and burdens, and returned in triumph to the plane with a willing band of native bearers. There we found Corby, also grinning, but a little embarrassed by a crowd of natives with spears. I ought to have said that the night before, when we knew that we were about to reach country where the natives might be hostile, we had agreed that no one of us was ever to fire until another member of the party had been attacked and wounded, a course that we thought prudent, as with our small numbers and light armament, aggression on our part would almost certainly be disastrous.

I do not think these Dinkas were really hostile; in any case they were too surprised to think of attacking us. Women and children soon came near, the women setting down the water pots they had been carrying and standing in an outer ring. They were shorter and sturdier than the men, and seemed almost to belong to a different race from their tall, long-legged and slender-hipped mates, unlike the tribes further south, where little more than the primary characters distinguished the sexes. They had quills in the nose and lips, and wore many odd ornaments. Some had anklets and bangles, and all wore a girdle or thread of beads supporting a substantial bushy tail behind, and a purely ornamental decoration in front, sometimes two or three green leaves, sometimes three little threads like bootlaces, about three inches long. Men and women had an offensive odour from their custom of smearing themselves with cow's urine. A few of the women were copper-coloured, but most, like the men, were dark skinned. Before long a dusky damsel was bold enough to come close, and very soon all of them, men, women, and children, were swarming round us, peeping

into the cabin, and in high good humour. Broome took a film of them before we left.

About 4.30 we tried to start, raising a tornado of black dust, but the temperature rose so rapidly that Cockerell, after taxi-ing to the limit of the clear space and just getting off the ground, turned and brought us back again. I am sure the natives, who had lost their initial fear, guessed that we were in difficulties, for this time, as soon as we came out of the cabin, the men, without the women and children, drew near, bringing bows and spears out of the grass. We motioned them off, whilst the mechanics hurriedly patched the leak, and put the remaining stock of water into the reservoir. Cockerell got us into the air, and we headed in the supposed direction of the Nile about 5.3.

The next hour was unpleasant. The sun was sinking quickly, visibility was bad, and petrol and water were running low. The pilots above and I below knew that we were 'for it', unless we came to some clue before dark. At six o'clock Cockerell made a wide circle, and to my relief I saw the Nile. I hoped it was Mongalla, but in a few seconds we had come down on some open grass almost on the river bank. Cockerell had crossed the river, found no sign of our destination, and so had come back to what Broome and he had agreed was a possible landing-place. It was a miserable moment; we were all worn out. But for the time we were in safety; there was water near, and nothing could be done until the morning. Then Cockerell remembered our emergency rockets, and in a few seconds they were whizzing into the air. But they were smoke rockets, not fire rockets, invisible in the falling night, except for a few hundred yards. Hurriedly we got out our sleeping-bags and began to collect firewood, whilst we could still see. Then came a throng of natives, not Dinkas, but more civilised, and with them a man having authority, in drawers and a red fez. We called out 'Mongalla', 'Mongalla', and in a few minutes he

seemed to understand and pointed in the direction in which we had supposed it to be. I wrote a chit, addressing it to the O.C. Mongalla, telling him that we had come down safely near the village of the bearer, but had no petrol. We offered the note to the leader and pointed to Mongalla, but he would not touch it. Then I called Broome, gave him the note, turned him round in the right direction, and gave him a push and a kick, calling out 'Mongalla'. The leader understood the pantomime and carried it out on a smaller and very reluctant man.

Other natives arrived, bringing a gourd of milk and a live sheep. The sheep we could not cope with, but the five of us eagerly shared the milk. Soon we had a roaring fire; Broome made tea, and used our last stores in a stew of rice, tinned peas and tongue. But the peas and the tongue had gone wrong, and after a mouthful we gave up the effort. We shared a few currant biscuits, and weak gin and water, the stouter heads having hot whisky. The natives had vanished; we sent the mechanics into the cabin, as they had had the hardest day, and Cockerell, Broome and I, giving up the hope of help from Mongalla at least that night, prepared to get into our sleeping-bags. But Cockerell found a huge centipede beside his bag, and we decided to sleep on the wings. We fixed the mosquito nets on a steep slope, on the reinforced part of the canvas, where there was just room for the three. We slept little, and for once were glad when dawn came. Through the night we heard large animals moving near us and we were afraid for the plane. In the morning, tracks in the mud showed that hippos had been near, but probably had been scared by the fire we had kept going between the plane and the river. We sponged down, had tea and a rather unsuccessful 'damper', discussing the situation. We could do nothing without petrol, and our messenger might fail us. I decided that I must try to make Mongalla on foot, and Broome insisted on coming with me. We parted

reluctantly; if our messenger had failed and if we did not get through, it was a poor look-out for all of us. A few minutes before seven we said goodbye, and set off with one of the revolvers, but to our relief, at that moment the man in the fez arrived. Reluctantly he responded to our shouts of 'Mongalla', and set off ahead of us at a sharp walk. For two hours we tramped through the bush, rather enjoying it. At least we were doing something. The sun was not too hot, the sinuous native paths were not too rough, and we kept seeing bushbuck which hardly moved out of our way. Then came a struggle through a region of swamp where we had to push through elephant-grass, sink over the ankles in ooze, and worst of all, cross burnt patches where we were tripped up by innumerable stumps. Next came a pleasant walk—except for the sun, now intolerable—along an open creek in which naked natives were spearing fish. We tried to induce one of them to push us across, as he and our guide seemed to agree that Mongalla lay over the water. But he refused, and explained by gestures that we must go back on our tracks. The naked fisherman, a Dinka in build, set out as our guide and led us round the dry end of the swamp through bush, until a native village was in sight. There he left us, and our guide tried to persuade us to go on. A group came out of the village; our friend in the fez bolted, and we saw that one of the natives was carrying a gourd. I hoped it was milk, and backed my optimism with a bottle of champagne and a dozen of oysters to be paid in London. I lost the bet, for when we had bargained with cigarettes, the gourd contained tepid and muddy water, which, however, we drank greedily. The natives seemed to understand 'Mongalla', and we went off in the direction in which they pointed. Then came the worst part of the trek. We struggled on in terrific heat over open bush, dried grass, and expanses of mud in which we sank to our knees, and we were soon muddy, torn, and bloodstained from thorns and cuts. The

hard work was almost beyond my physical powers, but Broome helped me, and, fortunately, my spirits kept good, and I was able to help him through several fits of depression when we lay down and smoked. But at last, from a little eminence, we saw the huts of Mongalla a few miles away. We struggled on, and soon were sitting on the bank of the broad Nile, shouting to natives to come to ferry us across. We crossed in a dug-out, and struggled into an Arab shop where they gave us coffee and directed us to the Governor's house. Captain Bridges, the Deputy-Governor, a tall handsome man in shorts, stared for a few seconds at the two tattered and bloodstained tramps who were hardly able to speak.

'What you want', he said, 'is a drink'. We had gin-and-French, and then could come to an understanding. Our messenger had arrived that morning. The aeroplane had come down at Kiro, fifteen miles in a straight line from Mongalla, and a relief party with petrol had been sent. But he did not understand at first how it was possible that two Englishmen had tramped though the bush in six hours. We had baths, more drinks and food, and soon, in borrowed pyjamas, we were fast asleep on the gauze-screened verandah until we were awakened about five by the joyful whoops of Cockerell and the pilots. Soon we were all in comfortable chairs at the officers' mess until dinner. We all took big doses of quinine and after dinner slept until dawn, I in the Governor's house, the pilots and mechanics at the officers' mess.

Chapter XVII

The Golden Journey: Mongalla to Kisumu
1920

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We had tea at half past six in the morning and then Bridges took me round the station. On the lake, which opens into a backwater of the Nile, we saw fishing-eagles, pelicans, marabou storks, teal and shovellers, grey herons, jacanas, hammerheads and large black-and-white kingfishers. In poor Stigand's garden there were blue rollers, bee-eaters, chocolate-coloured cuckoos, and shrikes in incredible numbers. We visited the aerodrome, where Cockerell and the mechanics had decided already that we should have to stay two or three days, as the heat made it impossible to work between eleven and five. Mongalla is not a pleasant place and at the time of our visit Stigand's death had thrown an additional gloom. The village lies in the middle of a steamy plain, in a narrow mile-long clearing along one side of the river. There are a few houses built for white people, each in a garden and stockade, the barracks, native houses, and a general store in which we replenished our stock of tinned provisions and I bought shorts. Along the river and round the lake there is high elephant grass and beyond that thick bush. From a single clearing in front of the governor's house Mount Lado could be seen rising abruptly on the southern horizon. The chief topics were the death of Stigand, the bad equipment of the avenging patrol, and the fashion in which Khartoum gave orders without knowing the local conditions, and in particular the psychology of the natives. No doubt things are better now,

and one has always to discount something from the complaints of local administrators and residents as to the ignorance of central authorities. But at the time, the complaints were detailed and impressive. Not only at Mongalla, but in many other places in Africa, I got the impression that the greater part of trouble with the natives came from failure to understand their customs and ways of thinking, with the consequence that what the natives were told was right or wrong had no relation to what they thought right or wrong. Even a low type of mind is bewildered by praise or by punishment the reasons for which it does not understand.

We had to stay three days at Mongalla. I was able to do very little, as the heat, the continual smell from burnt grass and the heaviness of the air kept me from eating or sleeping. But I visited the hospital, in which splendid work was being done under almost impossible conditions of overcrowding, the ivory market, and the Governor's cattle zareba. The keepers are Dinkas, expert cattlemen, alert to notice if anything is wrong. Each has his own pet bull, the horns of which are trained into individual shapes by paring during growth. Sometimes both horns are curved over towards the right; the horns of the heifers are twisted into a crumpled knot. Neither the build nor the traditions of the cattle Dinkas fits them to be porters, and I was told by Archdeacon Shaw, then at an early stage of his great work for the natives of the south Sudan, that part of the trouble which led to the death of Stigand was not the imposition of taxes, which they thought in order, but the necessity of carrying them in in kind.

In the evening we went fishing, partly to show the natives the advantages of nets over spears. One of the officers had a circular net about ten feet across, weighted round the edges. By a skilful throw this was thrown on the water like a disk; the edges sank, and the net was dragged in. Every cast brought from fifteen to twenty fishes. A very

long seine net was prepared, and one end was dragged into the water by naked soldier after soldier, until nearly a hundred stretched it out, and then, making a wide circle, brought the lake end back to the end held on the bank, in the fashion in which a similar net is worked by two boats along the Mediterranean shore.

The catch was plentiful, although many escaped; Nile perch were the most common, but there were also snake-fish, and puffers, which, when tickled after they were landed, sucked in air and expanded into spiny globes. Crocodiles rarely come into the lake, but were abundant in the river. They were so much shot at that they were shy, but one afternoon we came upon some monsters basking on a sand-bank.

The grass was too long and the weather too hot to try to see game. But as shooting was the only diversion for the civilian officials and the officers in that sodden station, I was told much about the larger animals. Elephants were numerous, and there was a well-known herd, called the Gondokoro herd, which we saw afterwards from the air. A herd usually consists of an old bull which directs the movements by sound, some young bulls, cows and young. The chief danger to hunters comes from the curiosity of the young. If a hunter lies down in the grass, the herd will usually file past him, but a young elephant may stop to see what the stranger is. The mother at once trumpets loudly, rushes out of the herd and may kill the intruder. Rhinos were said to be numerous, the white species on both sides of the river, the black, or common, only on the west. I was told an Arab legend. If a hunter finds an undisturbed heap of droppings, he knows that the rhino is quite near, for it is the habit of these animals, if not alarmed, to scatter their droppings. Once on a time the rhinoceros, gazing into a pool, saw his own ugly wrinkled face, and went to the old baboon, who was the sage of the forest:

'Baboon, the Lion has a stately mane, the Bushbuck has horns like scimitars, the Gazelle is sleek and smooth, you have the soft eyes and cunning hands of a Man; I, alone among the beasts of the forest, have a wrinkled and sagging jowl.' 'Rhinoceros, the answer is easy; here is a threaded needle; go back into the forest and sew up your wrinkles.'

The Rhinoceros took the needle in his delicate lips and trotted into the forest. As he ran, he smiled to think of the beauty he was going to contrive, and smiling, swallowed the needle. He has been looking for it ever since.

Bushbuck were abundant. The Mongalla gazelle was often seen, and I was told that the females had short horns. The Cape hunting dog (*Lycaon*) was sometimes seen. Hyaenas were a trouble and often prowled in the compounds at night.

On the morning of the twentieth, we rose before dawn to find an overcast sky. The engines were run up, and at six, although the rim of the sun was just showing, the air was heavy. Cockerell could not get height; he turned north and wheeled over the Nile and then turned south. But the aeroplane would not rise. We sagged down close to the water, rose a few yards, and got back to the drome, just missing the wireless installation by inches. The contact-breaker on one of the magnetos had broken, and the radiator shutters were sticking. Adjustments were made and by half past nine we rose in a steep spiral and headed south. To the west beautiful Mount Lado rose in a series of shoulders, white like the limestone rock behind Monte Carlo. About twenty miles south of Mongalla we passed over the Gondokoro herd of elephants, some thirty strong, moving in single file and undisturbed by the noise of the plane. Later we disturbed a huge herd of buffalo which plunged wildly into elephant-grass from the open scrub. It is striking that in the course of the whole journey down to Tabora, in Tanganyika territory, I identified from the air elephant, rhinoceros,

hippopotamus, buffalo, camel, giraffe, many kinds of buck, lions and ostriches, but never zebras, although of the larger animals they were almost certainly the most abundant. From the distance we were above them, the stripes must have blended into a single shade, and probably distorted the outline.

For more than an hour we passed over a monotonous plain with many swamps. Then a long range of mountains was visible on the south horizon and isolated rocky hills began to rise from the plain. About ten, we passed Rejaf and saw the river, narrow and broken with white foam over the rocks. The engine began to heat and we had to use our accessory water plant. We left the Nile and picked up the well-marked road from Rejaf to Nimule.

The valley narrowed rapidly towards the south, shut in on the east by tiers of mountains rising one above the other, and on the west by a high ridge running north and south, with lower hills stretching north-west from it. As we got close to Nimule, the hills on the west formed an almost continuous cliff, arranged in tiers like a gigantic landslip, plainly a colossal fault, the edge of a rift valley. At 10.50 the Fola rapids were visible, the Nile disappeared round the foot of a high mountain and reappeared as a wide chain of placid lakes stretching towards the south-west. At the angle lay Nimule, a well-marked group of native huts with a few European buildings. To the south and east a wide plain rose to the horizon. We were on the Uganda frontier and we came down on the aerodrome, on the edge of the plain about two miles from the village. The surface was rough; a tyre was punctured and the tail skid and an elevator control were broken. The cylinder jackets were leaking badly, and it was clear that we should have to stay for repairs. In a few minutes some natives arrived, well-built handsome men, naked and armed with spears, but friendly. Behind them a file toiled up the slope, headed by two men

in European dress. The Europeans were Dr. F. S. Nassar, a Syrian doctor trained in Beyrut, engaged on sleeping-sickness research but acting temporarily as Mamur, and a Greek merchant. They brought a welcome gift of lime-juice and drinking water.

At two o'clock we tried to get into the air, but there was a bad breakdown before we left the ground. A cylinder valve had broken and we had to arrange to stay the night. Unfortunately it was impossible to send a message, as the telephone line to the nearest telegraph operator, forty miles away, had broken down, and again we had to leave friends at home ignorant of what was happening to us. We were all depressed. Corby confided to me that it was a washout, and that every time we got off the ground we were risking our bloody necks on red lead and tape. Even Cockerell was depressed, telling me that for the first time in five years he was losing his flying nerve, and that as he went along, all the time he was watching for possible landing-places. I suggested that as the mechanics would not need him, he should come out shooting. We arranged with the doctor to send out lime juice, milk and firewood as, not caring to leave the machine, we proposed to camp out.

Cockerell and I changed into shorts and went out with the rifle and gun. It was very hot, but there was a wholesome tang in the air, unlike the staleness of Mongalla. The hills were beautiful; there were patches of green grass and wild flowers, chiefly a kind of convolvulus and a sweet balsam. We tramped along a winding native path, crossed a creek with water-holes, sat under a tree and smoked cigarettes. Then I missed some guinea-fowl very badly, a feat which somehow cheered us both, and we went back empty-handed but happy. The cylinder had been taken down and Cockerell got to work, saying that we might yet stagger on to Jinja and Kisumu. At Kisumu, the Air Ministry had informed him, there were spare engines. Broome and I got

ready the camp, arranging the sleeping bags and borrowing spears to support the mosquito-nets. Then came a file of natives, women with water jars on their heads, men with firewood and one with six live chickens, of which we bought three. But the chickens did not serve their purpose; first Cockerell loosed their thongs so that they could hop about, I gave them rice, and Broome supplied them with water in a cigarette tin. They adopted the ground under the plane as their compound, and so far as we were concerned, they were reprieved. Cockerell said that 'at least the little blighters might lay us some eggs for breakfast.' At dusk the natives, to our relief, began to go. They had sat all day in a ring as close to the aeroplane as they dared; they watched me shaving with interest; they chattered and stank, begged cigarettes and dashed at every stump we threw away. At dark we were alone, round a roaring fire; after lime juice and gin we had a stew of rice, bully beef and tinned beans with tea and tinned peaches. A supper for the Gods, and to keep Broome's language more adapted to our gentle mood, we turned our plates upside down for the peaches, so saving washing up. Then a smoke and bed. Broome could not sleep and watched the fire until midnight when I took charge. There was heavy thunder and vivid lightning, but fortunately only a few drops of rain. Mosquitoes were troublesome, raging outside the nets, and biting through them if any part of the naked body were in reach. A lion came prowling round the camp, and we heard another calling. Just before dawn a troop came close, but the bright fire seemed to scare them and I heard them growling and scrambling further and further away.

At five o'clock dawn was just breaking. The Southern Cross, rather disappointing in its size, blazed in the south, and low down on the northern horizon the Plough stood on its head. I had a sponge-down, got into shorts and rope shoes that I had bought at Mongalla, and roused the others.

Broome soon had an excellent breakfast ready; at Mongalla he had replaced the tiresome conical aluminium cups, for which holes had to be made in the sand, by mugs with handles. After breakfast I went for a long walk through the bush, seeing ground hornbills, ungainly and shy, white egrets, and brilliant parti-coloured lizards. The lizards were usually basking on ant hills under trees, and rushed up into the trees on being disturbed. I am fairly confident that I saw one lizard, with a huge fringe spread out like the wings of an aeroplane, alight on a branch and rush into cover.

At noon, when I returned, everyone was in better spirits. Repairs were getting on well, and the natives had been forced to squat a little further from the plane, women and chiefs being allotted the shade under one wing, the other being reserved for us. We ate eggs and biscuits and by two o'clock the engines had been run up, we taxied across the drome, turned, waited until the dust clouds settled and then rose into the air, heading for the south. We crossed the village and passed over the wide and placid Nile so close that I saw the heads of hippos shining brown through the water. But it was bad flying; Cockerell circled twice, gaining a little height as he faced the wind, only to lose on the other half of the spiral. And so he had to turn back, and only by what seemed trick flying vaulted over the trees and came down on the drome. The air was too hot and there was nothing for it but to camp another night and make another effort at dawn. Our kind friend the doctor, who had reached home when he saw us returning, invited us all to his house for baths and dinner, undertaking to put sentries whilst we were away, and to send more firewood.

For two hours we lay in a row under the wings, panting, too tired and hot to speak or to sleep. The afternoon was beautiful. To the north-west the tall peak and huge cliffs forming the edge of the Rift valley shone pale blue against a sky of bronze. Far to the west the Nile gleamed, a ribbon of

blue. Up to the southern horizon a grey plain stretched indefinitely till it was lost in a grey haze through which two mountains made white triangles against the sky. Suddenly, although there seemed to be no wind, several columns of dust rose hundreds of feet into the air and tottered and writhed across the plain, now fading out, now re-forming. About four o'clock a flicker of cool sweet air came down from the mountains, and we made camp. Broome and Cockerell set up the curtains and arranged the sleeping bags over bunches of dry grass I had collected. The mechanics began to overhaul the valves and plugs. Then we set off to Nimule, bidding the mechanics follow at sundown. We found our way easily through a winding native path, which suddenly ascended and widened into what was almost a village street. The natives were sitting in their compounds, cooking or doing nothing, but rose to salute us as we passed. We came to the Greek merchant's shop, a tin-roofed shanty with a large verandah and a few chairs. The doctor was waiting for us, and we sat down, sipping lime juice and water, whilst we bought sugar and biscuits, tinned salmon and socks, and also tins of Three Castle cigarettes, which had come to Nimule from Bristol by Bombay, Mombasa, Kisumu, Jinja and the Nile! Then we walked up a steep flagged path with deep dry water-courses witnessing the violence of tropical rain, until we came to the doctor's house, a substantial octagonal building of stone, built before Nimule was ceded to the Sudan from Uganda. The large compound contained many fruit trees and some prosperous cotton bushes. We had tea and a long talk, watching the sun turning the sky into a scarlet background for the gleaming, golden Nile. The doctor told us that Nimule was a decaying place and had lost importance since it was severed from Uganda. There was little sleeping sickness and his chief duty was to keep patients from Uganda entering the Sudan. But there was much malaria and blackwater fever.

The merit of the place was its great beauty, the freshness of the air in the morning and the evening, and the abundance of game. The mechanics arrived; we had hot baths in turn, and an excellent dinner. Soon after nine we set off in single file, a native with a light leading, another carrying our stores on his head. In half an hour we were at the plane, rewarded and dismissed the guides and sentries, made up the fire, and in a few minutes were too fast asleep even to think about lions.

Next morning (22.2.20), I rose at four, in the dark, made up the fire, put on the billy, stripped and had a delicious sponge-down in the cold air. Then I woke up Broome and the mechanics, leaving Cockerell to the last moment. At 6.15 we had had our breakfast of tea and biscuits, the engines had been run in, and we were in the air with a rush, heading for Nimule and the Nile, to pick up the telegraph wire. Until seven we flew south, passing over low hills and very rough areas. Soon there were signs that we had reached a less desolate country. The roads of Uganda wound like pale ribbons across the land. There was abundant water, and green patches alternating with yellow gave the appearance of England at harvest time. Soon came thick forest with tall trees. Far to the west lay the wide Bahr-el-Gebel, like a chain of lakes with a line of abrupt cliffs on its further side. Game was abundant; we saw several small herds of elephants, and a solitary gigantic male with huge tusks, running, like a rabbit to its burrow, up a steep slope of boulders. The pace and agility of an elephant were new to me.

About half past seven we began to leave the Nile, heading south-south-east towards the Victoria Nile. Far off to the west I thought I got a glimpse of the beginning of Lake Albert with its huge wall of cliffs. We came into a new valley, crossed the Victoria Nile and went east for a few miles across broken country with irregular cliffs and thick

forest, until we saw the Murchison Falls and Rapids, a great tumble of white foam. There we turned south and crossed a rough country, rising rapidly, with distant high mountains and no signs of inhabitants, but many elephants. By 8.30 we saw roads and villages again, and the Victoria Nile shone on our east. We crossed a wide loop of the river, passed extensive swamps and then saw lake Choga. The country looked like the Seine valley in flood seen from the hills above Rouen, smiling and prosperous. The river narrowed. The irregular plain rose slowly to a rim of low hills, which we knew from the map to conceal the basin of Victoria Nyanza. The river flashed into rapids, we crossed the hills and suddenly came down on the aerodrome at Jinja. The drome was a brown expanse ringed with the thick green of bananas. In front of a white pavilion there was a group of English in khaki, ladies in white, and natives in gorgeous colours. We stepped out and were welcomed by Mr. Eden, the District Commissioner, Captain Walker, in charge of the aerodrome, and other residents and officials. I was introduced to Ezekiri Zibondo, President of the Busogo Lukiko, a young native who spoke English well and was the uncrowned king of Uganda, and to the head of the Roman Catholic Mission, who had hurried up from early service to meet us. There were sandwiches, beer and champagne and graceful speeches of welcome in the pavilion. Then the mechanics got to work on the water-jackets, and we shaved, bathed and changed in a tent.

After luncheon we were taken in a car down a steep road winding through banana groves to the town. Jinja is beautifully placed on a green slope leading down to the lake. The houses have large gardens with green lawns and flowerbeds. I was reminded of some new watering-place on the coast of England. The impression was deepened as we sat on a lawn with an English tea being served on a white-clothed table, and as we watched a lawn-tennis match. But

it was not England. Our host had his bandaged foot resting on a chair, not from gout, but from the septic results of 'jiggers' which had bored into his leg on the last official safari (journey). We were warned that even in Jinja we must never put a naked foot to the ground, but must take slippers into bed with us and put them on before we touched the floor. The tennis game was interrupted by a sudden scurry and rush: a little duiker dashed across the ground, and we were told that dogs had to be shut up at night, as leopards prowled round. At dusk, as I walked along a shady path with garden seats beside the lake, a serpent twelve feet long glided in front of me across the path and slipped into the water. It was too dark to identify it, but I paced its length as it had reached across the path. The sense of being in a artificial oasis, slenderly protected against the surging wild, was confirmed when we followed a curving, gravelled avenue to a green meadow rising from the gorge. There were crowned cranes on the grass, and white egrets near a group of cattle. Gusts of cool air came to us from the roaring falls. A mass of rock covered with trees divided the cataract into a smaller part nearest to us, and a roaring avalanche beyond it. On the other side the bank rose in a vertical wall covered with thick foliage. It was wonderful to have come so easily through Africa to the source of the Nile, the only outlet of Lake Victoria, one of the great lakes of the world, a sight in quest of which many brave men have lost their lives. The falls boiled into mighty rapids, alive with leaping fish. Darters hovered over the water, or with almost incredible dexterity swam up to the very edge of the cataract. Crocodiles were said to be numerous, but I am not certain that I distinguished any of them in the tumbling waters thronged with the leaping fish and flashing darters.

After a dinner and reception, arranged for us by the Provincial Commissioner, we returned to the aerodrome, where beds had been arranged for us in the pavilion, to prepare

for a start at dawn. We arranged our sleeping bags on the bedsteads and hung the mosquito curtains from the rafters, and as I put out the last light, the straw-roofed pavilion seemed like a school dormitory. There were native sentries on duty, and here, after three miles of pleasant evening drive, we were camping on a clearing in the bush which had cost the labour of a thousand natives to arrange, and of two hundred to keep clear. During the night hyenas visited the aerodrome and there was a rumour of leopards. We were well outside civilisation in the territory of the beasts.

About midnight I was awakened by a clamour, and saw a glare shining into the pavilion. Captain Peter Walker, in charge of the station, was already in his boots and before I could find my slippers and spectacles was off in his car. Cockerell and I followed at a run, but saw at once that the fire was far from the aeroplane. In the other corner of the drome a native hut, straw-roofed and as large as a barn, was ablaze, and there was pandemonium amongst shouting natives and the few white men. When the hut was burnt down and we went back, we heard the story. A native corporal on duty had stolen a tin of petrol, but was betrayed by one of his companions. In a fit of rage he had thrown the petrol on his own hut and had set fire to it.

At five o'clock next morning (23.2.20), we had taken breakfast, the engines had been started, the blades were revolving slowly, our valises had been put in the cabin, and all Jinja had gathered to see us off. But as soon as the engines were warm enough to 'run up' it was evident that one was in trouble. A magneto had gone wrong, and as there were no more 'spares', there was nothing for it but slow repairs. Another day at Jinja.

I began by examining the drome in detail. It was covered with a loose, friable, brown earth, excellent in dry weather, but certain to turn into greasy mud in rain. At one end a French grass had been sowed as an experiment, and

seemed to be binding the soil. Round the margin were the hills of white ants, some of them fifteen to twenty feet high and as hard as sunbaked bricks. The clearing of these was one of the greatest labours in making the drome, as indeed in all the roads in tropical Africa. On the cleared surface of the drome were pits from a foot to an inch in diameter, the vestiges of anthills that had been removed, and almost invariably around these was a little fretwork of covered ways, the beginning of a new hill. These small hills were as soft as putty, and when they were kicked open their texture was like Gruyère cheese; they were populated by thousands of repulsive grey-white little insects, scurrying away from the light. In less than a week one of these inch-high hills might grow into a mound high and hard enough to upset a landing plane. True ants were also numerous, some more than an inch long, using the hills of the white ants as their homes. I do not know if they are messmates, parasites or enemies. They were locally known as 'stink ants', from their repulsive odour when crushed. Near the drome, but not actually on it, I saw several marching armies of true ants, all smaller than the stink-ants, but with the large warriors and smaller carriers, each with a fragment of leaf. Each marching band was from two to three inches across, in a regular track cleared by their movements. Most were marching in the same direction, but a few were threading their way backwards. Two or three times I interrupted the stream by brushing out an area of about a foot, then smoothing out the clear space carefully. The ants were bewildered; they seemed to have no sense of direction, but to have been following the track by scent or by touch, or merely by contact the one with the other. A great crowd collected at the near side of the trampled space, and on the other side those that had already crossed marched on. But in time a few of the returning ants began to collect on their side of the clear space. The two crowds grew rapidly, the ants rushing out and

back in every direction in a state of excitement. In course of time, so far as I judged, by a process of unconscious trial and error, a few ants crossed in either direction, and those that did not return were followed by others until complete continuity was established. I could see no trace of any individuals returning to give information, so to speak.

Before leaving London my friend, the late Professor Maxwell Lefroy, had reminded me that many of the most serious insect pests had been spread by human agency. Insects, perhaps harmless in their native home, might turn into pests when transferred to new conditions, and in fact sometimes had done so, and insects known to be noxious had spread to new territory along trade routes. Might not the swift new transport by air be a danger? The cockroach had come with shipping to Europe, the fleas of ship-rats had brought plague, the colorado beetle, once a harmless feeder on wild plants, had devastated potato crops in the United States and had come to Europe with potatoes. Lefroy had gone over the plane with me in London and had shown me every nook in which insects might lurk, and had provided me with tubes and preservatives, so that specimens might be brought back to him for identification in London. He had hoped by that method to get some idea as to how far air-transport might be a danger by its swift transport of insects.

I had made a search before each starting and after each landing, and at Jinja, with more time available, I made a patient scrutiny, even behind the covers of the tyre-spokes. I found nothing. Perhaps it was the dry season when insect-life was at the ebb. Sometimes a few flies, like house-flies, settled on the plane when we were at rest, but I failed to catch them, and as soon as the engines started, the vibration disturbed them. The rubber wheels of the tyres proved unattractive to creeping things, and the tail skids were protected by a ring of grease lest white ants should invade us

by night. I was not bitten by tsetse flies until I was in the Governor's train going down to Dar-es-Salaam; the sharp pain of the bite and the absence of any mark afterwards surprised me. But at Jinja, in the gardens, we made unpleasant acquaintance with the umbwa, a small biting fly, whose attentions are painful and almost instantaneously raise small white points surrounded by a ring of irritation. They are not known to be the bearers of any disease.

In the evening we had good reports from the mechanics, and as Cockerell said that we might start, we had dinner sent to the drome, went to bed, rose at dawn and left the ground at 6.30. The air was heavy, and Cockerell only just managed to clear the trees and the low hills at the edge of the small aerodrome. Then he succeeded in rising until we were over the Nile where we followed the rapids, gained a little height, met a good breeze which just lifted us over falls, almost in the spray, and took us on to Victoria Nyanza. The view of the falls from overhead was beautiful, though rather alarming, and it pleased us to think that we were the first to see the source of the Nile from that point of view.

Over the lake we turned east meeting a strong head wind. A valve was sticking, and our pace was not good. We passed many small islands, some bare and rocky, some with green bush and a fringe of golden sand. To the north the lake was walled in by a high ridge, but as we went east the shore flattened out and was bordered with lagoons and little bays, revealing Victoria for what it is, not a deep rift-valley lake, but a gigantic rain-puddle filling a shallow basin. About half-past seven we crossed an estuary and came over a flat tract, well watered, with many native villages and a wide road running north-east to south-west. The visibility was bad, but we saw high hills far to the east, and to the south the lake again appeared with hills faintly visible across the water. We were passing along the gulf of Kavirondo, and at 8.50 we suddenly came near the water again and saw

Kisumu. We alighted at 9 a.m. on a good aerodrome north-west of the town near the lake. We had reached East Africa and the terminus of the Mombasa railway in thirty-one hours twenty-five minutes of actual flying.

We were welcomed by Major Emmet and Captain Macdonald of the Royal Air Force, and by the District Commissioner, who brought a message from the Provincial Commissioner. Our first question was about the new engines, to reach which we had taken perhaps unfair risks. Alas, they were at Mombasa, but had been in a fire and under the sea. Emmet said that they were worthless. Even the spare magnetos were of the wrong type and would require much adjustment.

Chapter XVIII

The Golden Journey: Kisumu to Dar-es-Salaam

1920

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We digested the shock of disappointment about the new engines and had a quick consultation. The Air Force staff promised us every assistance and Wyatt was given the help of a trained aerial engine fitter. Cockerell thought that we might 'stagger on again', in the hope that when we got through the tropics the cooler air and the longer daylight might help us. Perhaps I was wrong to accept their readiness, but, in fact, they were as anxious as I was to complete the journey. And so I said 'Yes', and the mechanics got to work.

The pilots and I drove into Kisumu, where I was the guest of Mr. and Mrs. Lafontaine, the others going to the hotel where the Air Force officers had their quarters. Kisumu lies on a sloping plateau about eighty feet above the level of the lake, here looking like a wide ocean. The British residents have their houses in gardens along a north-and-south main avenue lined with poinsettias with their magnificent scarlet bracts; I knew them only as greenhouse pot-plants, and to find them as tall trees was a wonder and delight. At the north end of the avenue is the native market and village, with a view of the Nandi escarpment, a towering mountainous cliff, the edge of a branch of the Rift valley. The south end leads to open bush, where there was a herd of Impala antelope. A promenade was being laid out alongside the lake and there, just before dusk, I saw hippo-

potamuses, large civets, and crocodiles. Two or three steep streets, in one of which is the native bazaar, lead down to the railway station and the quay. In the bazaar an Indian tailor had no white suits that would fit me, but undertook to make me one before I left next day. It arrived just in time to pack, and was excellent, except that the trousers had been made from the end of the web, and had the maker's name printed in an unsuitable place in large black letters. Coming back, on board ship, where the heat forbade wearing more than trousers and a shirt, I was the favourite game of stealthy snap-shooters.

The Kisumu residents were hospitable. There was a public dinner in our honour the first evening, at which we all had to make speeches, and next night the Provincial Commissioner entertained us. During the day I visited the native market. The women were naked to the waist, bright and clean-looking. In Tabora, on the other hand, the women were clad in a single voluminous mantle, usually black. But if one were coming towards you in a shady avenue, she would pretend not to notice you, and with a rapid movement throw open the mantle, flashing a graceful dusky body, and, as suddenly, pretending to notice you, would re-cover herself up to the shining eyes. So, before legs and ankles had ceased to be a treat, Victorian damsels would give us a furtive view of a few inches of stocking.

In the afternoon I had a long talk with a fellow-guest who was on his way back to a coffee shamba some fifty miles off in the hills. He had taken land with a partner, under the scheme for the settlement of officers, but already there were rents in the fabric of expectation. The allotted land was good but had been sold at too high a price, and too much capital was required for clearing, planting and waiting. With several of the officials I had long talks about the German treatment of their former colonies. On the whole their views were favourable. German settlements had been laid

out on a great scale; well-planned avenues radiating from the central boma or government house, stone-built houses, stations on the railway equipped and built as forts. They had compelled the chiefs to read and write Swaheli, so that direct communication with them was possible. When the Germans were retreating, at first they left their chiefs behind, but when they discovered that we were beginning to use their own system of administration through the chiefs, they began to take the chiefs back so as to embarrass us. I was also told that their scale of punishments was lighter than ours. On that point, however, the South African officer who had taken over at Tabora, and had had the opportunity of examining records left after the hurried German evacuation, had a different opinion. He had found, moreover, an amazing set of sadistic photographs in which German officials and native women appeared.

On the morning of the 26th, we got to the aerodrome before sunrise. Cockerell insisted on a drastic reduction of weight, and we saved over 200 lbs. Every possible spare part was scrapped; food and ammunition were reduced to the barest minimum. Almost every change we had was packed in our sleeping-bags and these were taken over by the Air Force officers to be sent back to England. We hoped, when we reached the Rhodesian railway system, to buy what we needed as we went along, waiting where necessary for supplies to be brought. At 6.30, suntime, we were in the air. Suntime—the local times varied: they might be suntime, or taken from the nearest railway or steamer, or from the watch of the most dogmatic person present. The plane rose well, over the end of Kavirondo Gulf, and then Cockerell, as he had promised the commissioner, made a wide circle over the harbour and town. In the next hour, flying due south, we crossed the gulf, passed over flat cultivated land to the east of Mt. Karachoni, then crossed Homa Bay with lofty Mt. Gembe to the left, and followed the

eastern shore over undulating country, well cleared, but bare and dry. There were many native villages, each with a central enclosure for cattle, a ring of huts and an outer hedge of green thorns. We crossed a small forked peninsula, probably Mohuri, and were frequently over the edge of the water. We were in high spirits. It was a lovely morning; the golden sand shelved under the clear water, and even some way out we could see the shining sandy surface of islands not quite submerged. We were now in Tanganyika territory, formerly German East Africa, well over into the southern hemisphere. As we approached Shirati, the lake shore became sinuous with flat, partly flooded plains. The aerodrome lay under us, clearly marked, but, so far as we could see, without sheds, and so we risked going on.

For the next hour and a quarter we crossed successive narrow bays running far inland to the east, with the pieces of land separating them projecting far into the lake, ending in spits of sand or chains of small islands. Rocky hills and high mountains lay to the east, and sometimes the country was rough and barren. But wherever it seemed possible, the land was cultivated to a greater extent than in Kenya. There were shambas miles across, surrounded by tall hedges, and smaller patches. The land was hoed into long ridges for the cultivation of maize and mahoga, the latter a kind of manioc, with a grey root from which a poisonous juice must be soaked out. It needs little water, and is a sure food when other crops fail. When roasted, it tastes rather like a sweet potato with a nutty flavour.

At 8.15 we saw the Kirurui Hills and Speke's Gulf. The crossing was about twenty miles, and white rocky islands shone through the clear water. Then came a highly cultivated plain with many villages, and we saw Mwanza, an imposing settlement with shady avenues radiating from the boma, and steep streets leading down to the water. In a few minutes we had come down on a good aerodrome, six miles

from the town, and were met by the officer in charge of the station. Before our petrol tanks had been filled, numbers of Indians, old residents dating from German times, and many natives, had arrived to see us. But the drome was small and encircled by hills, and without delay we were off, to avoid the rapidly increasing heat of the day.

We circled back over Mwanza and picked up a road running south, inland from Speke's gulf. Until we passed Shinzanga, a large village laid out in rectangles, the land was nearly level, for the most part dry, but with some swamps and water-holes and great herds of cattle. Low hills rimmed the vast horizon, and the fierce sun seemed to throw no shadows beyond the trees. Between 11 and noon the land became thicker with green bush. I saw several giraffes and many antelopes. There were protruding boulders, and the air, like the ground, was bumpy. A few minutes after noon we rose over the low rim of blue hills and a wide green plain in a vaster circle of hills stretched under us. In the middle lay the fine buildings and symmetrical avenues of a large town, with a railway, sidings, and sheds. It was Tabora, a native word meaning 'to get through'. In a few seconds I stepped out into the sunlight. A crowd of natives, and a group of Europeans with two ladies came to meet us. The leader was my old friend the late Sir Horace Byatt, Administrator of Tanganyika, who was on safari, going through by special train to Kigoma on Lake Tanganyika, but had waited to welcome us. In a few minutes Major Bagenal, the district political officer, Colonel Grigg, the officer in command of the troops, and Lieut. Bailey, in charge of the Air Force, took us off to baths and luncheon.

After lunch we went back to the aerodrome and found all well. There seemed a possibility that for the first time since we left Heliopolis we could make a stage the day after our arrival. There was a magneto wrong on the port engine, but Wyatt had already gone far towards repairing it. We ar-

ranged to fill up with petrol and water at dusk, and to start at dawn for Abercorn.

Meantime I was introduced to Saiva, Sultan of 40,000 people, the chief man in the district of Tabora, tall and stout, with an Arab cast of face and the gentle manners of an Arab. He was delighted with the 'Endeggi' (great bird), and was pleased when I invited him inside the cabin. Next afternoon, when he heard of our crash, his first question was as to our personal safety. He is wealthy, of advanced ideas, and sometimes gives a European luncheon at the hotel. After the armistice he was very anxious to know if the Germans were coming back. With reason, because his name was first, in a captured German record, of a list of about 1000 natives whom they proposed to hang if ever they did come back. Unfortunately the political officer could give no assurance in words. But he pointed to the boma over which the Union Jack was flying and said: 'Do you think it likely that we shall ever pull down that flag?' Saiva laid hold of the table with his large hand and gripped it, until the red blood showed through his skin. 'I have always heard', he said, 'that when the British have grasped anything they wish, they do not let go until the flesh leaves the bones'.

Later in the afternoon I had a long walk on the rim of hills surrounding Tabora. It was rough going, and as I was sitting on a boulder in a thicket of trees, I was rather alarmed by a crashing and grunting noise which drew near. It was a troop of baboons; they passed within a few yards of me, but either did not see me, or took no interest. Looking down on the great plain rising to a rim, like a green saucer, I thought how small a change in elevation or in rainfall would turn it into a shallow lake, like Victoria Nyanza, or a swamp like the Sudd. Even within the short time in which Central Africa has been known to Europeans, there have been changes of level sufficient to make rivers change the direction of their flow. In the evening we drove

to dine with Colonel Grigg, in command of the troops. His wife, a niece of Olive Schreiner, who wrote *The Story of an African Farm*, had just arrived to join him. On her first night she heard a disturbance outside her grated window, and went to see what was the trouble. It was a lion, trying to climb in. There was much talk of lions; they had got out of hand during the War and entered the town boldly at night. The natives always slept behind barred doors and windows, and Europeans going home after dark did not venture along the electrically lighted avenues, except in cars.

Next morning (27.2.20) we rose at dawn and went to the drome. The engines had been warmed a few minutes. We had been given a guard of the King's African Rifles, sturdy fellows, chiefly recruited in Nyassaland. A sentry had been placed about twenty yards behind one of the propellers. When the engines were run up, and the hurricane began—at first only a strong current, fortunately with little dust—the sentry planted himself more firmly and presented arms. At the final moment, when the pilots were in their seats and the mechanics and I were holding down the wings whilst the engine roared to its full acceleration, he was beaten, and just contrived to retreat to the side without being blown over, to the delirious joy of the long file of his comrades. At 6.50 we taxied across the ground, turned into the wind, came over the drome with a rush and rose easily into the air. But alas, a 'young fountain' poured from the starboard engine, far beyond the resources of our accessory pump, and in five minutes we were back on the drome. Then I think for the first time I really lost heart, and doubted the possibility of success. Cockerell remarked that he would never go to church again! We set the mechanics to work and went across to the boma, where the officers comforted us with beer. By ten o'clock the patch was made; we gave it three hours to set, and decided to try again, if the day became cooler. At one o'clock, whilst we were at lunch, I kept

running out to persuade myself that notwithstanding the heat indoors there was a slight breeze in the open. The horizon was piled with cumuli, and the rains, already late, might break at any time. I hope that I did not over-persuade the pilots, but at half past one Cockerell said that we could but try. Broome went off to the sergeants' mess for the mechanics, and Bagenal drove Cockerell and me to the aerodrome, where we began preparations. It was very hot, but there was a suspicion of air. A few minutes before two all was ready. Even then, I thought that Cockerell and Broome were anxious, but we were always a little anxious at the moment of starting. Just before two we taxied across the drome, turned round, rushed up wind and got into the air. I had just noted down, as usual, the exact time, when the starboard engine cut out. I looked out, saw bushes ahead and clear ground to the right, supposed that Cockerell was steering round to return, when we touched ground with a smash. Hurriedly I braced myself, saw Wyatt with a face of wild rage propping himself with his hands and back against the petrol tank, and just noticed Corby's comic face of terror. Then came a wild lurch and heave, and Wyatt and Corby rose high above me, another more prodigious heave, when I was almost thrown on the top of them, a loud sound of crashing and tearing, silence of the engines. Wyatt shouted—'Get the door open, sir, petrol fire,' and was over the tanks so quickly that I don't know if he or I opened the door. We were all outside in a second.

Wyatt and Corby solemnly shook hands. Cockerell and Broome came running round to see if any of us were hurt. But there was no real damage. Cockerell had slightly sprained his wrist, Corby had bruised his thigh and I had a rather annoying bruise on the hip, which, however, I didn't notice until at night in my bath. But suddenly Wyatt leaped at me with a yell; I thought he had gone mad. Not so. As I generally do when there is nothing else to be done I had

taken out my cigarette case, and was about to strike a match. Actually petrol was bubbling and streaming out of the tanks and the engine! In a few minutes people came dashing up to us in cars; they had seen the crash from the drome and were relieved to find us all there. Then we discussed not the cause of the crash, which we knew well, but how Cockerell had contrived to save us. He made light of it, saying that he had only put in practice the chief art of a pilot, 'knowing how to crash'. When the engine cut out, he had a fraction of a second to decide whether to race the other engine or to shut off and close the petrol taps. The first course gave a chance in a hundred of carrying on until a lucky landing place might be found. If the crash came with an engine running and the petrol tap open, the Golden Journey would have ended in a roar of flame. Shutting off the engine meant that the plane must crash into whatever came its way, at a speed of sixty or seventy miles an hour. He had decided on what he had always found the safest course, had shut down everything, and held the aeroplane straight ahead. If the straight course can be held, there is so much in the fabric of the aeroplane to crush elastically that the risk to life or limb is not very high; but if the plane overturn sideways, or still worse, if it somersault, the chances are bad for the pilots and not much better for those in the cabin. In our case an anthill concealed in a bush had crashed our starboard wheels through the right lower plane, and had nearly thrown us over, swinging us round, when a stump caught the port wheels, crashing them through the left plane, whirled us round, and with a final forward throw made the machine stand nearly on its nose. But the extra wheel carried above ground under the nose had saved us by carrying the nose a few yards further forward and then gently crashing through it. When the plane was finally at rest the broken wings were flat on the ground as if a giant had trodden on a running insect.

I have been in few serious accidents, and in none, before or after, so dangerous as our crash at Tabora. But at the time I was not afraid; it came too quickly and was over too quickly for that kind of reaction. With more experience I should have been more alarmed. The mechanics, who had often been hurried to clean up a mess in France and in England, knew better, but in the few seconds before the plane came to rest, I saw their faces of rage and terror as in a vivid dream, and not as in circumstances that might be going to affect me. But I confess that at intervals for weeks afterwards I amplified the memory into a disagreeable nightmare. And it was not until several years later that I was able to enjoy an air accident story of my own invention:

'Hell!' said the pilot, as the plane crashed in flames.

'Yes,' said the Devil.

As soon as the mechanics realised that our numbers were not up, they set about their usual expert work, collecting the spilling petrol, cutting out the risk of fire, and salving what was portable. Broome, as soon as he saw that no one was badly hurt, was as cheerful as ever. Cockerell, who has more temperament, was annoyed with me for a moment.

Looking at the wreck, I said:

'Well, that is the gilded roof on our bad luck.'

'Bad luck! I call it damned good luck. There aren't many who have run such risks for thousands of miles and got off so cheaply.' Then he too, smiling, fell to cursing our bad luck. Broome chipped in:

'And now we can try a coconut-juice cocktail.'

'Nonsense,' I said, 'coco-palms only grow near the sea.'

But he was right. Coconut palms had been brought up from Dar-es-Salaam along the old Arab slave-trade road and flourished in Tabora. Soon we were back in Tabora sitting on a verandah. Fresh coconuts were brought; the milky juice was poured into glasses, gin and lemon juice

added. We agreed that these cocktails were overrated; they were not worth the trouble it had cost us to reach them. But Broome said that if they had been shaken with rum instead of gin, all would have been well.

In the next two or three days the aeroplane wreck was dismantled. The upper wings were given to form the roof of a new tennis pavilion. The valuable instruments were removed, and with the aid of a portable crane from the railway works, the engines were disengaged and removed for shipment home. In the course of the work, every effort was made to discover a specific cause for the final breakdown. The most probable was a leak from the water-jackets into the induction pipe. One thing was evident; we had been lucky to crash at Tabora and not in the bush. But once the engines were fully exposed to view, their state was a shock even to my inexperienced eye and nearly gave a fit to Cockerell and Wyatt and the engineers from the railway works. How we had come so far was the wonder!

I cabled to London in the vague hope that one of the machines following us might pick me up. Early on the 29th, however, the 'Silver Queen' circled over Tabora and then made off for Abercorn. It had crashed in Lower Egypt and had been fitted with new planes at Cairo. Later on Van Rensellar, the chief pilot, told me that they had seen our plane, but at the height at which they were they did not see that it was damaged, and so had hurried on to make up the time they had lost. In the end they got through to the Cape, and were the first to make the journey from England to the Cape; but in addition to the new wings at Cairo, the Cape Government provided them with a new plane in Rhodesia.

We then discussed the possibility of making a safari to Abercorn, and thence to the railhead. But the rains were due, we had no camping equipment, and were advised urgently by those who knew the country not to make the experiment. And so I sent the pilots and mechanics by rail

to Dar-es-Salaam, and waited myself until there was no chance of a machine picking me up. The Royal Air Force had kindly instructed their service machine to take me, if that could be done without spoiling the prospects of their own flight. I thought of going to Kigoma on Lake Tanganyika by rail, taking the Belgian steamer to Albertville and then on by river and rail to the Cape. The route was possible and the Government had sent one official by it. But it had taken many months, and the chance of getting through was doubtful. On Monday (1.3.20) the news came through that the following machines had all crashed, one disastrously. Perhaps it was as well for me, as without knowing it I was heavily infected with malaria, which turned out to be a multiple infection. Sir Horace Byatt, who had returned from Kigoma, very kindly offered to take me to Dar-es-Salaam in his special train. I accepted; the Golden Journey was over.

Perhaps what is the pleasantest memory of the journey to me, is the friendship and comradeship of the pilots and mechanics. It was a trial for them to set out on an adventure of unknown but certainly great risks, under the control of a man who knew nothing about flying, and who was an elderly person of the professorial type. From the first day I won their hearts by sharing an inordinate appetite for cigarettes and a readiness for cocktails when cocktails were available. But I was extremely fortunate in the personal qualities of my companions. Cockerell, the chief pilot, apart from his knowledge and experience, had a genius for the air, with a courage that seemed reckless until one saw that it was controlled by an almost miraculous skill and a swift decision. Broome, the second pilot and navigator, was as good a backwoodsman as an aviator, as skilled at arranging a camp and making a meal out of unlikely materials as at following our route from imperfect maps. Cockerell, like many geniuses, when not absorbed by his job was sometimes moody; at all

times and circumstances Broome was imperturbable. But sometimes I think that the two mechanics were the bravest of us. They were not flying-men, and were really uninterested in the journey as a journey. Wyatt was a mechanic, Corby a rigger, both men of the workshop and of the aerodrome, not of the air. They had excessively hard work under the most difficult conditions, and they knew far more even than Cockerell about the real condition of the engines and the difference between adequate workshop repairs and the kind of patching they were able to do. But all the time they were delightful mates. I suppose at my age I am unlikely ever to pass through a similar experience of what really were prolonged discomfort and unexpected risks, but were it to happen, I could choose no more resolute, resourceful and delightful companions than Cockerell, Broome, Wyatt and Corby. And I am proud to know that they would be glad to have me with them.

Was the Golden Journey worth while? For me as an individual, certainly. It made me younger again, by many years. It gave me the opportunity of seeing a part of the world in a shorter time than by other means of travel. The breakdowns in unexpected places, moreover, let me see little bits of wild life, inaccessible to those who now take the highly organised flying route to the Cape. From the wider point of view, I like to remember that our trip was in every sense a pioneer effort. What stopped us was not any inherent danger in the route, but imperfections of quite a minor kind in the engines. And as all the world knows these imperfections have been overcome. Machinery improves quickly. It was only in 1901 or 1902 that the Automobile Club arranged a formal motor trip from London to Oxford. Over a hundred cars lined up at eight in the morning at Hyde Park Corner. We were to lunch at Reading, reassemble at Headington Hill at six o'clock and go into Oxford in procession, where I think the Lord Mayor was to

receive us and we were to dine in the Clarendon Hotel. It was not a race, but marks were to be given for those who got through without mechanical trouble. The car on which I was a passenger got to Reading without trouble about noon. But there a tyre had to be changed and it was three o'clock before we were able to leave. When we got to Headington Hill, half a dozen cars were ahead of us. We waited until eight, and possibly another dozen straggled in. We waited no longer, but already the red carpets had been taken up. We did not sit down to dinner until nine; more cars kept arriving up to midnight, but about half failed to finish the journey. It is only by trial and error that difficulties are discovered and overcome. I do not doubt but that Lord Northcliffe's foresight and generosity in agreeing to my proposal that *The Times* should arrange to test the Cape to Cairo air-route helped the future of air-ways.

But does an adventure require any apology? I think not. All life is an adventure, and the Golden Journey was the adventure in which I lived most.

After two or three days in Tabora Byatt took me off in his train. By good fortune he was still on official tour, and so I had the luck to see all the important stations down to Dar-es-Salaam. After a day or two at Government House I became so ill that I was taken in a litter to the hospital, where I had a few trying days, but was admirably cared for. I could not return by the Cape with the pilots, although they offered to smuggle me out of hospital by night and get me on board. The most amusing incident at the hospital was that the only dispenser was in gaol for a very serious offence, I think a capital charge, and was allowed out for an hour or two a day to make up all the prescriptions. In due course I came home on the *Grantully Castle* and had a day or two in Zanzibar and Mombasa.

Chapter XIX

Whipsnade Park and Fauna Preservation 1911-1935

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Whipsnade Park gave me my chief pangs of regret when age decided that I must give up my work. To me it was the Zoological Society's most valuable achievement in its century of existence. It had initial success. But the stimulus of novelty fades out quickly, and I knew that its future must be slow, and that there would be temptations, financial and other, to prefer quick successes to gradual development. It would require a faith not broken by experiments which failed, or unanticipated difficulties, and a duration of time more consonant with the duration of a society than with the limited time of an individual.

Of the three ways in which human beings may be brought in contact with wild animals, the first is the zoological garden. The purpose of that is to provide a 'close-up' view of the animal kingdom, bringing its subjects from the tropics and the snows, from forests and plains, from rivers and seas, providing conditions in which the animals can live in health and comfort, and at the same time in which visitors can see them, also in health and comfort. The greatest difficulty to overcome is the balance between the convenience of the visitors and the convenience of the animals. I doubt if there be an insuperable difficulty in providing good conditions for any kind of wild animal, if only the wild animal itself be considered. It is necessary to dismiss from our minds the fallacy of reading human

emotions into animal psychology. I am sure that for them

Stone walls do not a prison make,
Nor iron bars a cage,

if we are to read into 'prison' and 'cage', the human emotions aroused by these words. And the most unlikely animals seem to thrive under what would seem the most unnatural conditions and the most unnatural food, provided that they are not molested by inspection or disturbed by untimely curiosity. That is where the difficulty comes in. It is true that very many creatures, from prawns and lobsters to tigers and poisonous serpents, will not only lose their fear of individuals, but become either indifferent or responsive to them, and it is also true that very many wild animals may become universal 'pets' in a menagerie, and that very few indeed do not learn to come to the call of their keepers or their special friends. But none the less, many wild animals, especially the 'agoraphobes', those which appear uncomfortable in open spaces, like conditions in their dens impossible to reconcile with public exhibition. And even the claustrophobes, those which are uncomfortable when cornered, become agoraphobes at times, especially in the breeding season. But these difficulties are questions of management, and in most cases animals gain far more by freedom from enemies, regular food and general hygiene, than they lose from captivity.

This is no place for an elaborate defence of zoological gardens. But something may be said. It is a natural and healthy instinct in children and in adults to take pleasure in seeing and watching living creatures. Every new generation should have an opportunity of seeing the beauty of living creatures in their varied activities, and of learning something about them that they cannot acquire from books or museums or pictures. Even from cinematographic pictures; for many of these choose some specially spectacular event, and there can be little doubt but that many of

them either suggest cruelty, or have been taken under conditions in which cruelty was involved. Zoological gardens provide one of the best schools for students of art, for nowhere else than amongst living animals are there such strange fantasies of colour, such play of light on contour and surface, such intimate relation between structure and form. They provide a rich material for the anatomist, histologist, physiologist, parasitologist and pathologist. They are an endless laboratory for the student of psychology; they are the basis of the study of zoology; their study is a necessary adjunct to the study of man in health and disease.

In the country zoological park, such as Whipsnade, there is a subsidiary purpose, that of providing a summer recuperating and breeding place for animals usually kept in the necessarily narrower quarters of a town zoo. Many animals can be carried by road with safety, and it is a great pleasure to see creatures like pigmy hippopotamuses and tapirs rejoicing in the large freedom of paddocks many acres in size, and disporting themselves in ponds in which they have room to swim. I wish I could add another subsidiary purpose, that of serving as a quarantine station for newly imported animals. But just as the London Building Acts, designed for other purposes, make great difficulties for the proper housing of animals in London, so the regulations for the importation of animals, designed for the protection of domestic stock from imported disease, make great difficulties for quarantining in the country. It is disastrous, for example, that animals newly imported should have to be kept for at least a year in close quarters in London before they can be moved to Whipsnade. Doubtless such difficulties may disappear when research into the causes and modes of transport of disease has provided a better and less costly method of protection than the compulsory destruction of all herds in which disease has broken out.

But the primary function of Whipsnade is to adapt as many animals of different kinds as may be found possible to the English climate in summer and winter, under conditions in which there will be a minimum of housing, and a maximum of exposure to the open air at the free choice of the animals themselves. We are too ready to think that animals will thrive only in the climates with which we associate them. 'Cold-blooded' creatures, those with little or no power of regulating the heat of their bodies to that of their environment, have a limited range of temperature within which they can thrive; most reptiles, for example, have to retreat to snug shelters against the direct heat of the sun, or in the cold of night and of winter. Very young animals and sick animals may require protection from extremes. But almost invariably warm-blooded mammals and birds not only are able to maintain a nearly constant internal temperature whatsoever be the temperatures surrounding them, but do maintain it better if they are exposed to changes, just as any kind of machine gets out of order if it is not used. Tigers, which we think of as natives of steaming jungles, are relatively recent intruders into the tropics from the cold of Asiatic highlands, and still thrive amidst snow and frost. Monkeys are almost as capable of adapting themselves to a wide range of climate as are human beings. Although we think of gorillas as natives of warm tropical forests, they flourish on the high mountains between Uganda and the Congo, where there is bitter cold by night and chilling rain storms. Baboons frequent high rocky country in which at night the temperature often falls below freezing-point, and in the Atlas Mountains and in Japan other species play in the snow. The limiting condition is more often food than temperature, and in a park suitable food can be provided. On the other hand polar bears and penguins, to take two examples, are associated in our minds with perpetual snow. But polar bears, if they have access to shade and to water,

luxuriate in the hottest days of an English August, and there are species of penguins, not differing in their structure from those of the Antarctic, which range almost into the tropics. For all these warm-blooded creatures, shelter from the wind is necessary, because the loss of heat in a chilling draught outruns the capacity of the internal heat-regulating system, but this can be provided by plantations, and until these have grown, by artificial wind-screens. Against very low ranges of temperature it is easy to provide by thermostatically controlled electric heaters placed in the dens. But, I believe, it is a fundamental condition of success that the animals be allowed to seek their own shelter and their own heated compartments, and not be driven in or out according to the ideas of the keepers. Animals are not so foolish as they are often thought, and quickly learn, if they are allowed to choose, to go in when it is too cold for them, and to come out when they feel disposed.

The choice of animals for a country park like Whipsnade must depend on experiment. There will be many disappointments, due sometimes to conditions which can be ascertained but not easily remedied. Hippopotamuses, for example, refuse to defaecate except in water, and it is not practical to keep large country ponds from freezing in winter. Reindeer and some other species, for reasons not yet discovered, do not succeed at Whipsnade. But lions, tigers, chimpanzees, macaque monkeys, kangaroos and wallabies, most species of deer and antelopes, ostriches, emus and rheas all flourish either without any artificial heat or with a minimum of it. I have no doubt but that, with patience and time, the choice can be extended to include a representative collection of mammals and birds. But whilst in the town zoological garden the animals are as much on exhibition as the pictures in a gallery, in the country park they must be watched for or sought. None the less it is surprising to notice how quickly most animals come either to pay no

attention to visitors or even to seek notice from them. Creatures which at first kept as far away as possible from human beings, once they have realised their security freely come as close to them as possible.

The third mode of bringing human beings in contact with wild animals is the 'national park'. Of these there are now a number, and it is to be hoped that before long there will be more. Typical examples in America are the Yellowstone Park, over two million acres in extent, the Yosemite in California, with three-quarters of a million acres, the Grand Canyon Game Preserve with more than half a million acres, the Glacier Park with a million acres, all in the United States. In Canada a total area of 8884 square miles has been allotted to national parks, of which Jasper Park with 4400 square miles is the best known. The Union Government of South Africa has dedicated for all time, as the Krüger Park, an area in the Transvaal two hundred miles long by forty wide, in all over 8000 square miles. The late King of the Belgians set aside an area of 400,000 acres, since then nearly doubled, to form the Parc National Albert in the Belgian Congo. The primary object of these great parks is to preserve for all time the animals and plants natural to the country in a state of nature. It is against their purpose to introduce to them either plants or animals which are not native to the district, but to keep them as samples of what the country was before the encroachments of civilisation. They are different in kind from 'sanctuaries', which may be small areas from which human visitors are excluded all the year, or at least in the breeding seasons, and which may have no other purpose than to preserve perhaps only a single species. But the national park is designed not only for animals, but for visitors, so long as these go neither as sportsmen nor as collectors. Motor roads and rest-houses are being provided for them, and it is of deep interest to know that the wild animals are already be-

ginning to lose their fear of man, and with that, the greater part of their danger to man.

For more than a quarter of century I have believed in the distinctive purposes and values of the zoological garden, the country park and the national park, and in the need of co-ordinating these three modes of studying animals. The first two are each in their way artificial collections of living creatures, for in each the animals have to be confined and restrained, although in different degrees. In the third any restraint is for the visitors, and the animals are under conditions of absolutely wild nature. The town zoo, from the ease with which visitors may reach it, is the most easy to finance by admission fees, but is the most costly to maintain, because of the housing and staff required. The national park is by far the least costly in relation to its extent, as it requires no artificial food, and only a limited number of warders and guardians. The country park is intermediate. To my mind there will come a time when the three sets of institutions will be linked even financially, the national parks supplying the animals required for exhibition, and receiving a substantial revenue from them.

It has been my privilege to have taken an active part in zoological institutions and in efforts towards the preservation of fauna. In Chapter XI I have written something about the history of the London Zoological Gardens during my period of office; there remains to be said something about Whipsnade, and the more general matter of fauna preservation.

In the early days of the Zoological Society, so far back as 1829, the disadvantages of the cold clay and winter fogs of Regent's Park were realised, and a plot of seven and a half acres was purchased and a lease of twenty-six more was taken, on a sheltered site near Richmond Park. It was intended to be a place for breeding and for keeping duplicates from the London garden, for experiments in acclimatising and do-

mesticating new kinds of birds and mammals, and for general experiments on the physiology of reproduction and interbreeding. It was a splendid programme, far in advance of the time, almost certainly due to Joseph Sabine, the first treasurer of the Society, a Fellow of the Royal Society, a leading horticulturalist, and deeply interested in what was then called zoology, that is to say, breeding, variation, reaction to environment, and those branches of the subject which could be studied only in a living collection. But even in these early days there was a division of opinion between those who thought with Sabine and those who may be called, with no disrespect, museum zoologists, people whose first scientific interest is in the collection, naming and systematic arrangement of the animal kingdom. Sabine was in a minority. The Richmond farm was mismanaged and starved, and within two or three years the experiment was abandoned. In 1903, about three-quarters of a century later, the possibility of providing a sanatorium and recuperating station outside London was raised at the annual general meeting of the Society, but the Council was unable to discuss the proposal on its merits, on account of the financial condition of the Society.

From 1903 onwards my experience in the London gardens was convincing me more and more that space and fresh air, such as were impossible in Regent's Park, were urgently required, especially as the collection was increasing in numbers. More land was required. Harcourt, afterwards Lord Harcourt, was First Commissioner of Works, and took a great interest in the Society. He agreed to my suggestion that a strip of land in the Regent's Park alongside the south boundary of the gardens should be ceded to the Society at an annual rental, on condition that the animals placed on it should be visible from the park, and also a larger triangular area up to then used only as a service enclosure for the park. He was of the opinion that it was ex-

tremely improbable that he or his successors would be able to hand over any important further area of the park to a private society without conditions being made to which the Society would be very unlikely to agree. Very quickly the new area was completely occupied by us, and the need for more land continued. To my mind it was more urgent, because of the result of a statistical investigation I made (published by the Society early in 1911 under the title *On Longevity and Relative Viability in Mammals and Birds*). It was based on the records of over twenty thousand individual mammals and birds which had lived in our gardens between 1870 and 1902, the individuals being classed into their species, genera and families. It led to several conclusions of abstract scientific value, but also to two practical conclusions. The first of these I quote in full:

'The climate from which a bird or mammal comes has the smallest possible relation to its viability in captivity. Heilprin in 1887 had already pointed out the error in the common belief as to climate being the principal factor that regulates or controls the distribution of animals. Amongst mammals and birds a vast majority of species and genera regarded as tropical have no actual or recent range into temperate or even frigid climates. Of those now limited to the tropics, still fewer are accustomed to a steady temperature. Some range periodically or occasionally to altitudes where great cold occurs; others, by exposure to the intense radiation of the dry air of plains at night, regularly endure cold going down to freezing-point; whilst many inhabitants of tropical forests (which we naturally associate with steamy heat) must be subjected to great cold in their nocturnal wanderings on the summits of tall trees. The abundance of thick hair and fur and of close feathering amongst tropical creatures is a clear indication that their life is not spent basking in tropical sunlight.'

The second conclusion was as follows:

'The idea that it is a fundamental necessity to protect healthy adult mammals and birds from cold by providing them with artificial heat is fallacious. The supreme necessity is free access to open air.

'In most cases this should be combined with shelter from wind and rain, and in some cases the shelter should be provided with artificial heat, perhaps often in excess of what is now customary, but only so far as it can be arranged without any detriment to fresh air. I think this is probably specially important in the case of nocturnal animals; as we are accustomed to see these asleep all day in the warmest corner given them, we are apt to forget that at night they move about actively, often in great cold.

'For all mammals and birds steady exposure to an even temperature is unnatural and unhealthy; change is a necessary stimulus, and permanent existence indoors is the worst possible condition for viability and longevity.'

Amongst others, the late H. J. Elwes, traveller, collector and naturalist, was impressed by the conclusions to which the facts seemed to point, and he wrote to the Council offering to contribute £50 a year towards a country station where the new methods could be put in practice.

I urged the acceptance of the offer, pointing out the extreme improbability of our obtaining any substantial increase of the land we occupied in Regent's Park, the special disadvantages of London fogs, London clay, and London Building Acts, even if we were to get it, and, as London was expanding, the increasing difficulty of getting at a reasonable price a suitable area within easy reach. The President and three or four other far-seeing members were in favour of an immediate and full enquiry into the practical possibilities of the scheme, the sites that could be obtained, their cost, the cost of maintenance and so forth, and I was greatly encouraged. But a solid and stolid majority turned down even the idea of further enquiry. That was in 1911,

and before it was judicious to raise the question again, the War came. After the War we were fully occupied for several years with the London gardens. But the new aquarium, the new reptile house, the monkey hill and several other improvements were planned and accomplished. Their success had two consequences. Very many more visitors came to the gardens, increasing our revenue, but also making greater pressure on our space. And without question it increased my influence with the Council. And so at the annual general meeting of the Society, I got a question put as to why we did not get a further extension of our area in Regent's Park. At the meeting of Council in May, the situation was discussed and I was asked to prepare a memorandum. This was done, circulated to the members and discussed at the meeting of Council in June.

The memorandum recounted the past history of the Society's tenures of land and then proceeded:

'Since the War I have discussed informally with Sir Lionel Earle and other officials the possibility of the Society getting more land in Regent's Park. They were good enough to tell me that in the event of a Government being willing to give the Society more ground, their advice would have to be against any concession adjacent to our southern boundary. If we were to get additional land from the park, it would be the triangular area running down towards Gloucester Gate. This area, even if we obtained it without such conditions as a free day or the right to the public of Sunday admission, is separated from the gardens by one of the main walks in the park and would have to be tunnelled under, or bridged over. As it is on the same clay soil and exposed to the same disadvantages of fog and climate as our present gardens, it could not be of great benefit to the animals. Moreover, as the land would not be our own property, but would be let to us on annual tenure, or a very limited lease, the large expenditure on roads, drains and

new buildings would not increase our assets. If, on the other hand, the Council were to decide on a country station, it should consist of at least 200 acres in a ring fence, be freehold, have a good subsoil and exposure. It should be within easy reach of an arterial road, preferably within seventy miles of London, but nearer if possible. In any case, if too far from London to attract visitors, it should be near a town large enough to bring some gate money.

'In the event of a suitable property being acquired, the exhibition part of it should be laid out gradually on the most modern system, fences and railings being replaced as far as possible by sunk ditches, and there should be good accommodation for a sanatorium and reserve paddocks for duplicates.'

The Council approved in principle the idea of buying a suitable area in the country, but suggested that, if possible, more than 200 acres should be acquired to provide for expansion, and asked me to make enquiries and report. I went into the financial side in detail to make up my mind how, and how much, purchase-money could be found. Then my colleague, Dr. G. M. Vevers, superintendent of the gardens in London, but a countryman by birth, inclination and knowledge, and I began to hunt for suitable sites. After long search and rejection of several offers, we came to the conclusion that the Hall Farm, Whipsnade, the property of the Ashridge Estate Trustees, might suit. I reported to the November meeting of Council, and it was agreed to inspect the property.

Sometimes the fates are kind. The appointed day was in November, and I woke up to a sullen London fog. Presently anxious telephone messages began to come in, enquiring if the thirty odd miles' drive to Whipsnade had not better be postponed. I got through to a friend in the Chilterns who reported favourably, so that I could reassure the anxious. When we reached the meeting-place at the little

village of Dagnall, the sun was breaking through, and in a few minutes we had reached the 700 feet level and were walking on the open downs. A brisk but not unfriendly breeze blew across from the south-east, the sky was blue, and the sun poured on us a heat that seemed of May. Down in the valley there still lay wisps of fog, but here the warm sun and the exciting air made us feel that life was good. After an hour's walk over the property, we collected on the grassy bank of Ouseley pond, a fairy mirror reflecting the tall reeds on its edge and the taller firs surrounding it. It was agreed unanimously, subject to the formal confirmation of the next meeting of Council, to buy Whipsnade. At the next meeting, the confirmation took place, and the future park, then about 450 acres, but later on enlarged to over 500, was bought.

But purchase was only the first step. There were rights of way, some certainly legal although little exercised, across the property, and at least one parish council claimed the right of digging flints on a large area. Gypsies had made it a camping ground, people had been accustomed to come even from so far as London to dig up ferns and cart them off for sale. Villagers gathered brambles, the local churches appeared to have taken holly for Christmas decorations, many of the wild flowers characteristic of the district, such as the pasque anemone, cowslip, wild daffodil, and orchid had been almost exterminated, and even primroses and bluebells had been decimated. In addition to footpaths, there were only rough cart-tracks unsuitable in their direction for the future park, and unfit even for service transport. The woods had been neglected and turned into impassable jungles by the unrestrained growth of elder. Even the tilled part of the estate was in bad condition, full of weeds and with ill-placed hedges. Nor was there a suitable water-supply. We were advised that a private Act of Parliament would be required if the Society were to have effective pos-

session of the land it had bought and legal power to enclose it and make regulations and by-laws.

A private Act of Parliament would take a long time to procure, even if it were unopposed, and serious opposition might easily defeat it. Fortunately Mr. John Speden Lewis, a wealthy member of the Council, had been much attracted by the land when we were inspecting it, and generously agreed to buy it from the Society at the price we had paid, if we failed to get the powers we required. And so it was possible to carry on. With legal help, the bill was drafted, and copies sent to all whom it might concern or who might be prepared to oppose. Then for many months I interviewed individuals and bodies, from permanent government officials to local magnates, from county councils to parish councils, explaining, pleading and promising. Only two serious obstacles came in our way. There was one right of way, which, however little used, was the most direct way between two villages. My friend Sir Lawrence Chubb, Secretary of the Society for the Preservation of Open Spaces and Footpaths, met me at Whipsnade with two members of his committee, suggested an easy alternative, and recognising that the Society in addition to its main purpose was about to preserve and make accessible a set of beautiful open spaces, agreed not only not to oppose, but even to support our bill. The other obstacle was more difficult. Although in most cases the authorities were more than willing to do what they could to assist us, the London Building Acts, with their rigid prescription of materials and construction, had often presented almost insuperable difficulties. I had therefore included a clause in our bill exempting us from all local buildings Acts with respect to houses or constructions designed for animals. The Home Office officials, who in every other way had been more than helpful, objected to that, admitting freely that so far as the Society was concerned, there was no objection, but holding

that it would make a dangerous precedent. My legal advisers and parliamentary counsel begged me to give way, and tried to assure me that in fact local authorities would always be reasonable. But I held to my point, and won.

Local bodies, from the Bedfordshire County Council down to the smallest parish council, impressed me with the competence of local government. The points raised were almost invariably substantial and were argued dispassionately. I remember only one meeting at which there was a rather strong opposition not based, so far as I could guess, on any wish to explore the facts. After point after point had been raised, the leader of the opposition, who seemed to me to have been tiring out his friends as well as the rest, raised the danger to the countryside of escaping animals, and demanded to know what animals we were going to introduce. I pretended that at last I had been cornered, and making a reluctant admission said:

'Well, we were going to begin with hyenas.'

There was a howl of laughter, and the opposition collapsed. Its leader afterwards became a very good friend to us.

In the end there was no opposition, and our bill passed through both Houses of Parliament and received the Royal Assent on July 2, 1928, as 'The Zoological Society of London Act, 1928'.

Meantime I had a year and a half with more pleasant open-air exercise and work than had ever happened before. I contrived to squeeze an extra hour or two every weekday for my London work, and every Saturday afternoon, every Sunday, and occasional week-day evenings were spent at Whipsnade. Vevers and I, with handsaws and axes, carved exploring pathways through the tangles of elder and brushwood, opened out possibilities of vistas, decided what hedges would have to be removed, where new plantations must be placed, and gradually elaborated the main lines of

avenues and paddocks as they now exist. A gang of local labourers followed our work; bonfires blazed night and day; ditches were cleared, tons of rubbish left by the picknickers of a century were collected and buried. From time to time the President came over from Woburn, discussing and advising, and in the most generous way sent young trees and shrubs for the new plantations.

When the bill was passed, we were ready for the experts, for the water-engineers, architects and road-surveyors, and had settled the type of boundary fence and arranged the contract for its erection. Then another bit of good fortune happened. On the President's suggestion no Whipsnade committee was appointed, so that there were neither the delay nor the compromise of opinions that a committee almost invariably brings into existence. Until the public opening of the park at Easter 1931, full power was entrusted to me. Another individual might have used it worse or better, but a committee certainly would have done worse. Naturally I took full advantage of the advice of the President and of Vevers, and when it came to the transformation of the old farm buildings into a restaurant, I had the invaluable assistance of my colleague, the late Miss Joan Procter, who had a genius for adapting utility to beauty, so that we knew what we wished done, before we called in the expert aid of an architect.

Very soon all the local labour was absorbed, to the great benefit of the villagers, who from the first were warm supporters of a scheme that would bring work and a breath of the greater world into their hitherto hard and sleepy lives. The press had stated that the Ministry of Labour was engaged on a scheme for 're-conditioning' labour, for bringing batches of men who had been out of work for years from the mining centres to stations where they could have regular work and good open-air conditions until they had recovered sufficiently mentally and physically to pass out into

the ordinary labour world. The scheme seemed admirable to me, and also I thought that Whipsnade might provide the conditions required. Through an old friend, Edward Marsh, then private secretary to the Minister of Labour, I got in touch with the Ministry, and through another friend, Alan Barlow, then principal assistant secretary to the Ministry, I was put in touch with the branch controlling the new scheme. We came to terms, and found that it was possible to work out an arrangement which suited the purpose of the Ministry and was an advantage to us, as it supplied us with supervised labour for which at the time we could not have paid. A large part of the heavy work of making new roads was done under the scheme, and it was a pleasure to see how batches of listless, rather broken men in a few days recovered health and keenness.

The Ministry of Transport was another government department that did us a great service. The approach roads to Whipsnade were little more than tortuous lanes, often blocked by snowdrifts in winter. The Bedfordshire County Council were willing to assist, but the county is large, not rich, and Whipsnade was in one of its remoter corners. But after long negotiation the Ministry was able to make a grant from the road fund, and to give the Council power to raise a loan, the Society undertaking to pay off its share of the cost by annual instalments over a limited period of years. Electrical supply gave us more trouble. We were likely to be large consumers of power, heat and light, and there was an anxious wish for a supply to some of the local villages. The Borough of Luton was more than ready to run a cable to Whipsnade, which also would have served other purposes. But when the route was surveyed and way-leaves were asked for, a small local group found the owner of a cottage prepared to be obdurate, and persuaded a society to declare that the cable would ruin the landscape. There was endless delay, and the cost of a public enquiry, but at

last one or two trivial alterations of the line, such as could have been settled in five minutes by persons of goodwill, were agreed on. I suppose that there would have been similar trouble when Stonehenge was erected on Salisbury Plain, had there then been in existence busybodies who could pull strings, but for the mitigating circumstance that such persons would have been convenient first victims on the stone altar. I have never been able to understand the fashion in which objectors always arise to things like the stretching of the line of a cable, mounted on the fairy-like standards now employed, across a landscape. In fact, once erected, it is almost invisible, but when the sun does reveal the standards, the line gives a sense of distance and space. But even if it were in itself aesthetically bad, the sense that it was bringing light into dark places would be more than a recompense.

It is of little use to make arrangements for the exhibition of representatives of the animal kingdom in zoos and parks, unless at the same time real efforts are made to preserve animals in their native homes. In 1912, I devoted a part of my presidential address to the Zoological Section of the British Association to that subject. I urged then that the general public had no conception of the speed with which destruction might overtake and had overtaken whole species of animals. In 1867, for example, there were still millions of bison roaming over the prairies of North America. In that year, the construction of the Union-Pacific railway cut the herd in two. The southern division, consisting of several million individuals, was wiped out between 1871 and 1874, and the practical destruction of the northern herd was completed three years later. Fortunately, by human intervention, it was possible to preserve the species, and there are now large herds flourishing in reserves and sanctuaries in the United States and in Canada. During the late War it is almost certain that the last rem-

nants of the wild herds of the European bison, an animal even finer than the American species, were exterminated. The sole survivors of the species are a few dozen individuals in private parks and in zoological gardens. An international society, of which I have been the British representative, is doing its best to preserve the species by keeping a stud-book, and by striving to secure exchanges of blood. The Transvaal was for long a paradise of wild animals. But since the Rand was opened the wild animals have suffered. Lions are nearly extinct. The hyena has been trapped and shot and poisoned out of existence. The giraffe is extinct. The elephant is extinct. The rhinoceros is extinct. The buffalo is extinct. The bontebok, the red hartebeeste, the mountain zebra, the oribi and the grysbok are so rare as to be practically extinct. The same fate is on its way to overtake most parts of the world.

The agencies of destruction are innumerable. The most potent are the rapid exploitation of the land for mining, planting and settling, the enormously increased facilities for quick transport to any part of the world, the perfection of fire-arms, and the commercial demand for hides, horns, feathers and trophies. Fortunately, especially within the last quarter of a century, the conscience of mankind has been awakening to the facts. The United States of America have been leaders in making efficient laws against destruction, in arranging small reserves and sanctuaries in suitable breeding-grounds and in making huge national parks. The British effort was directed first chiefly to the preservation of game animals, but the late Edward North Buxton, sportsman and naturalist, founded, early this century, a Society for the preservation of the fauna of the British Empire, which aimed at influencing opinion in a much wider way. During the War it was impossible to do much, but after the War it became active again. After the death of Mr. Buxton, I was successful in persuading the Earl of Onslow to be-

come President, and since then, with the most active co-operation of our secretary, Mr. C. W. Hobley, the Society has greatly extended its membership and its operations, and has made close contact with similar societies in other countries. To preserve fauna, international action is vital. Lord Onslow was able to persuade the Government to call an international conference in London to make joint recommendations for the preservation of African fauna, and the success of that has led to the hope that it will be followed by similar international conferences dealing with other parts of the world. There are few better objects in which I have been able to take an active part than fauna protection. There is no world problem more pressing, for although much has been destroyed, much still remains. Each generation is the guardian of the existing resources of the world; it has come into its inheritance only as a trustee. We are learning to preserve the relics of early civilisations and the rude remains of man's primitive arts and crafts. Every civilised nation spends great sums on painting and sculpture, on libraries and museums. Living animals are of older lineage, more perfect craftsmanship and greater beauty than any of the creations of man. And although we value the work of our forefathers, we do not doubt but that the generations yet unborn will produce their own artists and writers, who may equal or surpass the writers of the past. But there is no resurrection or recovery of an extinct species, and it is not that here and there one species out of many is threatened, but that whole genera, families and orders are in danger. We must keep all avenues of knowledge open to our successors, as we cannot guess what questions they may have to put to nature.

CHAPTER XX

Málaga in Civil War 1936

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I am beginning this chapter at Málaga in September 1936. My house and its terraced garden, and just below them a house and garden occupied by a lieutenant in the Spanish army, are tucked into the south face of a hill. The hill is a knob projecting nearly from the middle of a wide crescent of hills whose points are separated by the blue Mediterranean, about half a mile away. To the right as I face the sea, a deep and steep gorge, from fifty to a hundred yards across, separates me from the Camino Nuevo, a highroad winding up the hill from the Caleta, a main street with tramways, running parallel with the sea, and on my left a narrower gorge separates me from the palm-lined avenue winding up to the mansion of the 'B.s', a wealthy Spanish family. Nearer the sea, on the slopes of the east limb of the crescent, are the mansions and villas of the Limonar, the fashionable eastern suburb of Málaga. Behind the high western part of the crescent lies the main part of the town.

As I look up from my typewriter the garden seems more brilliant than ever before. Under the vivid light are a group of splendid zinnias which would make a feature in a London show; there are branching sunflowers twelve feet high, scarlet cannas and hibiscus, the pale long trumpets of datura, sky-blue convolvulus with blossoms three inches across, white convolvulus even larger, bushes of plumbago, roses of all colours. The heavy scent of jasmine fills the air,

and down below are trees bent under their loads of green lemons, black figs or mahogany-coloured locust pods, and scarlet pomegranates stand out stiffly like gigantic haws. On the shady side of the house five of my guests, the grandmother, a Spanish widow, English born and seventy-six years old, the mother, Doña Mercedes, and three daughters of from sixteen to fourteen years old, are in deck-chairs working and chatting. Beside me the 'babies', little girls of six and four, in white bathing gowns, are splashing and gurgling in a marble fountain pond, just big enough to hold them. And fifty yards away on the edge of the Camino Nuevo there lies the huddled body of a stout young man, in a silken singlet, pyjama trousers and velvet slippers, dragged from his concealment last night, brought here in a car, thrown out on the road and shot, and now lying surrounded by perhaps a dozen men, women and children, who, their curiosity satisfied, move off to be replaced by others. This morning at half past five and at a quarter to seven there were air raids, bombs rattled our windows and shrapnel dropped near us from the defence guns. In the hospitals there are the dead and mutilated bodies of men, women and children. At noon some sixty prisoners were taken to the cemetery from the provincial prison, shot, and laid in rows in a trench, and now, less than two miles away, the trench is being filled. It may be covering the body of Don Tomas, the husband of Doña Mercedes and the father of the girls, and it may be days before I contrive to get news of his fate from the prison.

We have found that an agitated day is often followed by a quiet evening. Presently we shall have tea sitting round my outdoor dining-table, and then the babies will have a donkey ride up and down the garden paths, after which they will go reluctantly and clamorously to bed. About eight-thirty the rest of us tidy, and at nine we have dinner, also in the open air: a cup of soup, an egg, or a small piece

of fish, a spoonful of custard, white wine and water and biscuits. We have our routine family jokes over the selection of biscuits, and then we sit under the stars until after eleven. But our gaiety on quiet evenings and through the quiet days that sometimes come is a skin over fear. We know all the noises now, and what to do, as we are a well-regulated household. When a red-flagged or black-and-red-flagged car takes its armed passengers up the avenue to the B.s' house, I have to hurry across to see what is ado. If there is the sudden stoppage of a car in the Camino Nuevo followed by shouts, a splutter of shots and a final *coup de grâce*, we have to sit still and hope that it does not concern one of our friends. If it is the hum of an aeroplane, we can take no precautions against a bomb making a bull's eye on our flimsy house, but if we take reasonable shelter from stray shrapnel we can see what we will of the circling planes, and the shells bursting round them. Even old María, my cook housekeeper, who at first got under her mattress, now takes stealthy peeps at the sky! But day by day we hear rumours of the rebels getting closer for their final attack on Málaga, and we do not know what will happen when an enraged town goes mad, and have a very good idea of what will happen when the rebels, headed by Moors and still more savage young fascist gentlemen, batter their way in. Certainly I do not know where or if ever I shall finish this chapter. As a shelterer of 'Rights', I am compromised here; as a passionate 'Red', I am in no mood to make the fascist salute.

The rebellion which became the present civil war began here on Saturday afternoon, July 18. I know now that it was a plot arranged by the Fascists, the Army and the Navy, with the support and connivance of the leading Monarchists, and with the sympathy and in most cases foreknowledge of the Church and of most of the Rights. It had been arranged for a date in June, then postponed

until a date in August, and then, after the assassination on July 13 of Carlo Sotelo, the Fascist-Monarchist who was to be the head, hurriedly fixed for July 18. All the Rights knew the 'day', and many of them had arranged that their families, their money and often themselves should either have left Spain or be in a place from which they might make a hurried escape to safety if things went wrong. Proceedings were to begin by the Army declaring a state of military law on Saturday afternoon or Sunday in all the leading towns from Tetuan in Morocco to Barcelona and Madrid.

Here in Málaga the outbreak took most of us by surprise. For some weeks the town had been uneasy. There had been transport strikes, strikes of farm workers, strikes of masons, strikes of shop assistants. But we had attributed these to the delay of the Government in getting going with the measures which the victory of the Popular Front had made possible. Early in July I wished to make some arrangements for autumn, in particular whether or not to advise two delicate ladies to carry out or to postpone an autumn visit to my house. I wrote to my friend Ramón Sender, the author of *Seven Red Sundays*, and deep in the counsels of the extremer Left. He replied saying that certainly before long the Army, the Fascists, the Monarchists and the Church would make a final and bloody effort to crush the People, but that he had taken a cottage in the high Somosierra for the autumn, and he invited me to lead the simple life there with him, his wife and his two babies. A week ago he was in the trenches defending Madrid; if still alive he is certainly leading the simple life.

On the Saturday afternoon (July 18) I had finished my writing for the day about four o'clock, and thought of going to a favourite little bay ten miles off to bathe. But it was hot; I was lazy; the gardener-chauffeur had the afternoon off, and I shied at the bother of taking the car out of the garage myself. It was a lucky laziness, for on my way

back I should have plunged into the thick of the fighting and at the least should have had my car turned over and burned. But I settled in the garden with a novel, and suddenly, soon after five o'clock, was startled by heavy rifle firing apparently in Málaga. My neighbour, an Army lieutenant, with others had led troops to the Civil Governor and had demanded the proclamation of martial law. The Governor refused; the Guardia de Asaltos took the side of the people and a street fight began. The soldiers were beaten, the officers taken prisoners, and the Governor ordered the Guardia Civil, a force which in other towns generally took the rebel side, to be confined to barracks. He allowed the workers' organisations—and indeed he could not have prevented it—to be armed. The rebels had failed in getting military law; they got mob law.

The details I only knew a few days later. But on that afternoon the firing gradually died down, and columns of smoke, turning into columns of fire as evening fell, rose high in the air over the hill separating me from west Málaga. After dinner I sat on the terrace until long after midnight and watched the flames, with tumult and occasional bursts of firing, creep along the sea-front until between me and the sea some houses were blazing. There was nothing to be done except to go to bed, leaving clothing arranged so that I could dress in a hurry. Next morning the western and the southern sky were black with rolling clouds; houses were blazing in the Limonar in full view, and from time to time there were crashes as floors fell in and sent up a column of sparks. The fresh air reeked of smoke.

After coffee I went up to my garage, in quest of a little Union Jack which I had used during the transport strike, but failing to find it, crossed the Camino Nuevo and went to the chauffeur, whom I dragged reluctantly out to find the flag, after which he scampered back like a rabbit to his hole. Returning, I found Pepe, who is of sterner stuff, watering

my roses and poinsettias, but with a message from the B.s. Almost at once Doña Mercedes and her oldest daughter came up my garden path. The mansions of their relatives in the Limonar were ablaze; it seemed as if their turn would come next. Could I give shelter if necessary? I showed them the accommodation, and then went part of the way back with them. Half an hour later I remembered the shop-strike and the deficiencies of my larder, and was hurrying down the garden to warn my guests to bring food with them should they come, when I met a procession straggling down the steep path from the B.s' house to the watercourse, across it, and up my garden path. First two maids with huge bundles, then three tall daughters, the two babies, Doña María the grandmother, a nursery governess, Don Tomas and Doña Mercedes, each carrying what they could!

We chatted in the *sala* making acquaintance, as I did not know the family before, and then discussed how to stow away people for the night. My guests insisted that I should keep my own bedroom, dressing-room and bathroom, opening off the *sala*. The three small rooms and bathroom upstairs were allotted to the babies and their nurse, and the grandmother. The three older girls were provided with mattresses, pillows, etc., on the carpet in the *sala*, and their mother with a sofa couch in the same room (an arrangement which lasted until September 8); a bed, rather like a large cradle, was made up for Don Tomas in my study. By some miraculous squeezing, my María and Lola found room for the new maids in the kitchen and servants' bedroom.

The remainder of the day and the evening were rather miserable. The flames came nearer and nearer, and from the afternoon till long after it was too dark to do anything but listen, old men, women and children, in an endless procession, hurried up the little lane by the foot of

my garden towards the Camino Nuevo laden with spoil of all kinds, furniture under which they staggered, piles of clothing, books, any portable plunder. But we all slept well.

On the Monday morning, the stream of plunderers was still active, houses still smouldered and crashed, but there seemed to be no new fires, and the B.s' house was still untouched. Flagged cars with armed men dashed up and down the road. About the middle of the morning one of these red-and-black-flagged cars went up the B.s' avenue and halted, bellowing at the inner entrance gates. Presently we heard the gates being opened and the car going up towards the house. I offered to cross to see what could be done. Not knowing the temper of the invaders, I took care to go a little way round, so that I could come straight up the avenue towards them instead of risking taking them by surprise. Two men, on guard at the gates, pointed revolvers at me. I waved in a more airy way than I felt, took out a cigarette, asked for a light, which they gave me at once, and then took cigarettes from me very amiably. Then we talked, my bad Spanish helping me, as they saw at once that I was not an armed Fascist. One of them walked up with me to the garage doors which they had broken open. Again the pointing of revolvers, but my companion clapped me on the shoulder and all was well. They had come for the cars. I said at once that I could not stop them, but would they leave the house alone? They agreed, and took off the cars, leaving a notice on the gates that the cars had been taken and that the house was to be respected. It was my first introduction to these armed men, and I found then the success of the cigarette-light technique in breaking the ice!

Meantime my gatekeeper's cottage and the gardener's cottage had filled up with refugees, chiefly people from houses near those that had been burnt, and all friends or acquaintances of my servants. But among them came an

uninvited priest in shirt and black trousers whom no one knew. In the evening when I went to see how they were all faring, everyone except the priest was most appreciative and grateful, but the priest grumbled to me about his food, and of his having had to sleep on the floor with a dentist. Next morning he had quite outstayed his welcome and a deputation of the other refugees came to me to ask that I should tell him to go, as he was a compromise and a discomfort to everyone. Afterwards I heard from one of the 500 odd prisoners that amongst them were sixty priests who did nothing except rave and grumble, except one young Jesuit, certainly in the gravest danger, who spent all his time consoling and encouraging the lay prisoners. Through him, also, I received farewell letters from a number of rebel officers before they were tried and shot, to be sent on when it might be possible.

After a quiet night, there seemed nothing new on Tuesday morning. Soon after 9 a.m., Don Tomas and I went across to his house and 'phoned some wires to London and elsewhere. On the way back we were stopped by an armed gang not in uniform who searched Don Tomas for weapons, but quite civilly, and refused to search me as being English. Later in the morning another gang came to search the house, which they did rather casually, but with extreme care to see that either Don Tomas or I was watching when each cupboard or drawer was opened. They had bitter experience of the police methods of 'planting' evidence in houses they were searching, and they, like all subsequent searchers, were anxious for us to recognise that their work was being honestly done.

After luncheon, things seemed quieter except for cars dashing about, and I went down to the consul's house in quest of news. But there was no answer to my ringing and I went on to the main Caleta road. There were no trams or buses, and so I held up a car already full of armed men and

asked to be taken into Málaga. At once they made room for me, two of the men climbing on to the roof. They were in high spirits, told me that all was over, and that I might go about as I pleased in complete safety. At the consulate I found little news; Clissold, the acting consul, was already deeply engaged with British subjects demanding immediate protection for themselves and their property! Let me record that all through the troubles Clissold behaved with valour, discretion and resource, and showed a marvellous patience over the impossible requests or even demands which were made. Then I wandered round the town, one of many spectators of the burnt houses, spectators curious and even a little sad at seeing the devastation. But the atmosphere was one of relief, even of gaiety. The trams began to run; shops were opening; a friendly 'Salud!' was more than a sufficient password for the armed men and women in groups of three and four, and for the more orderly patrols that were in existence. Any one who was not a furtive armed Fascist was in friendly safety. The Civil Governor drove in an open car through the town, being cheered everywhere, and making romantic speeches about the 'new Spain that was to arise from the ashes'. The rebellion had been put down; the rebels had had their lesson, and all was well. None of the perversions of fact that have left Spain was more fantastic than that 'Málaga was in the hands of the Communists'. All was quiet that night and on Wednesday morning, but early in the afternoon another search party arrived at the B.s' house. Don Tomas and I went across, and sent back the porter for Doña Mercedes and the keys, whilst we sat on the steps of the lodge chatting with the armed group, one of whom was very proud of an English magazine revolver. The search over, we parted excellent friends, and by six in the afternoon things seemed so quiet that the B.s returned to their house.

But things were not quiet. The town had discovered that the outbreak in Málaga had been part of a scheme for Spanish Morocco and all Spain, and that in many towns the rebellion had been successful, with a consequent slaughter of members of the various proletarian committees. From that day through all the tense following weeks, as the war swayed, as aeroplanes began to be used, as Queipo de Llano belched out from the Seville radio his jeers and threats, the temper of the town rose. Our troubles began early on the Thursday morning. About six o'clock María knocked at my door, rather in a twitter, saying that some men had come in a car to search my house but that they would wait until I got up. I found the usual group of five or six young men armed with rifles and revolvers, and asked María to take them upstairs, after which they came to my study, casually opened a drawer or two in my desk, passed through the *sala* to my bedroom, and were satisfied. They had been up all night and were tired; I gave them coffee, biscuits and cigarettes, and told them that they had no business to search an English house. They agreed and at once got busy putting my small Union Jack in a more conspicuous place over the gate. Then we shook hands. But before long they came back and went next door to the house of my neighbour, the lieutenant who had led the troops demanding martial law. The leader hurried up my steps: 'The *teniente* is in gaol, his family has gone, and there is only the wife of his servant; please come with us.' I was sorry that I accepted, for within a few minutes, in addition to revolvers which might have been an army man's 'spares', four hand-grenades were found under some shirts. The chief looked at me, and said, 'Very serious!' 'Yes,' I said, 'but I am not going to mix myself up in this.' 'Claro!' he replied, and went to the telephone and then called his men out into the garden. In about twenty minutes another car with uniformed men and a lorry arrived. The leader

got out, came up to me, shook hands and said, 'This is our job, goodbye,' the 'goodbye' in English with a grin. They were over an hour in the house, and I heard much hammering and wrenching of planks, and the noise of things being thrown into the lorry. In about an hour they went off, leaving a guard.

Meantime I had shaved and dressed and was typing in my study when I heard shouting and general clamour over at the B.s' house. I hurried across and found an excited crowd, armed men, women with revolvers, odd women, and a few *asaltos* in the courtyard and entrance hall. They told me that a machine-gun had been found in the house. I said 'Nonsense,' and tried to push through to the inner hall where I could just see the grandmother and the five girls sitting in a sad row on two couches. I went up to the *asalto* in charge who seemed anxious lest the crowd should get out of hand. He ordered me to be searched, to which I agreed smiling, and then let me pass through. Of course there was no machine-gun, but there was a large royalist flag and a sporting rifle (registered, but foolishly hidden in a linen-drawer). Don Tomas and Doña Mercedes, collected, but frightened, were standing in the middle of an excited, gesticulating group.

Before long the situation cleared. Some servants, led by a woman who had been employed two days a week for ironing, and who was a bitter Communist, had made the machine-gun accusation, which had fallen down. Two or three of the men who had searched my house before breakfast recognised me and came out of the crowd to help me. Parleys. The royalist flag and the sporting gun were bad; Don Tomas must be taken to the Civil Governor's for examination, but a guard would be put on the house, and the two ladies and the five girls might go to my house peaceably; indeed, as it was a rough walk, they would drive them round, a suggestion at which the old lady nearly

fainted. But Doña Mercedes insisted on going with her husband, and off they went in a flagged car followed by two others and a disappointed crowd, leaving the old lady and the five girls in my charge. We got their packages together, the guards helping, and back we went with the two maids, down the steep path and up my garden, a melancholy procession.

My guests were afraid to be left, I was afraid to leave them, and I had no idea what I could do. And so I made them settle in, and then we sat in the garden until lunch. But just as we were sitting down a friendly neighbour came to call me to her telephone (I had been unable to get mine installed). Doña Mercedes was at the British consulate; her husband had been taken to gaol and would I come for her? The streets were turbulent and not pleasant for a *señora*. There were no taxis, and although I offered to stop a flagged car, the lady would have preferred a tumbril. And so we came back by a hot walk and a crowded tram. In the afternoon I went to the Gobierno Civil, the entrance and stairs of which were thronged with excited sets of armed men, and after patience, expostulation and many cigarettes, got through the Governor's anterooms and found the Governor's secretary with a revolver in his belt, from whom I got an assurance that visiting hours were from ten to twelve and that we could take linen, cigarettes and food to the prisoners. Next morning I went to Málaga with Doña Mercedes, taking bandages (as her husband had an oozing surgical fistula in his chest), linen and chocolate. We had a most unpleasant walk from the outskirts of the town through a rough suburb to the new gaol. We were not allowed to see him, and only a long argument with the prison superintendent enabled us to get our parcel through and a note back. Late in the afternoon we sent another parcel by the B.s' chauffeur, himself a communist, but he was stopped by a picket, and the parcel taken from

him on the grounds that the contents would be more useful to some wounded soldier. Next morning I went alone to the prison, and after one or two difficult episodes got the bandages in and a note out.

Sunday, July 26, was a quiet day, but early on Monday morning an enemy aeroplane circled over the town, dropped bombs and killed some civilians. We heard next day that immediately after the raid a number of prisoners were taken from the gaol to the cemetery and shot. Knowing nothing of that, I went towards the prison about four o'clock, with bandages, food and a note. The atmosphere of the suburb was hostile, but as I had set out in a rather shabby pair of linen trousers, string-soled shoes, a collarless shirt and no hat, I got close to the prison with nothing worse than ugly glances. But some hundred yards from it I was stopped by an armed patrol, completely unfriendly. I explained that, in accordance with the Governor's orders, I was taking food and bandages to a prisoner, and opened the parcel. That only made them angrier. 'Well,' I said, 'keep the parcel until I go to the prison and ask if it is not allowed,' and made as if to go. At once I was covered by two revolvers and a rifle: 'A single step and we shoot!' Then they stopped a covered lorry and there was a babble of quick Andaluz which I could not follow. I was 'invited' to go into the front seat between the revolver-armed driver and a man with a rifle; two of the patrol got in behind and off we drove. But to my strong distaste the van swung off the Málaga road and took the cemetery road. Just before the gates, however, the van turned again and stopped at two small houses, but only to deliver some parcels, of food as it seemed to me. I brightened up, took out my cigarette case, asked for a light and exchanged cigarettes. The shades were lifting, and although as we rattled towards Málaga the noise was too great to talk, I was recovering confidence. In Málaga the van turned into a great dark shed, thronged

with armed men and crowds of women. We got out and, one of my escort in front, one behind, we twisted and pushed our way to an outside staircase which led to a kind of rabbit warren looking like a huge, dilapidated board-school. We came to a small anteroom where I was left while my escort went in quest of the emergency committee. I chatted for a few minutes to the little group in the room, telling them of my troubles. They advised me to wear an English badge when I went about the streets, taught me the various salutes, and abounded in praise of England, the democratic country. I told them not to deceive themselves, that the Conservative party would not stir a finger to help the Spanish Government, that the Labour leaders would concur, probably with some hypocritical expressions of regret, that the newspaper magnates would be openly or covertly on the side of the rebels, that the papers would be flooded with all the old stories of priests being crucified, nuns raped, and orphans deliberately blinded, that they could expect only a barren sympathy from some intellectual highbrows, but money and practical sympathy from some of the poorest of the poor. They would not believe me, but my prophecy turned out almost exactly correct.

However, in a few minutes one of them took me to the committee, whispered a few words, got a smile and a nod in reply. I was marched back through the town, an armed man alongside me, two in front and two behind, amidst stares and averted glances from tradesmen I knew, too afraid even to show pity, to the Gobierno Civil, through whose crowded corridors we went as a knife through cheese. In a few minutes we were out in the street again with the promise that a 'phone message had been sent to the prison. They asked me rather shyly if I would pay for a cab, and we tumbled into a four-wheeler. One of them gave the driver the order, 'To the gaol!' and I shouted, 'There and back, a return trip,' a joke much to their taste. Still more

to their taste when on reaching the city slaughterhouse, on the turning before the prison entrance, I leant out of the window and shouted to the driver to go straight on. And so we reached the prison, roaring with laughter, got in the parcel, got out a note, and on the way back stopped in the most dismal and crowded little bar I have ever seen, and pledged each other and the crowd in Palma wine. Then we drove into town, and we parted at the tram, the best of friends! But certainly I suffered a little that evening from nervous exhaustion.

It would be tedious to follow my diary day by day through the interwoven events of many anxious and weary weeks. At first prisoners, although strictly secluded, were well treated, and even when fugitives were caught or persons arrested after the discovery of compromising matter in their houses, they were taken first to the Gobierno Civil and interrogated, and then released or taken to prison. But as the air raids on the town increased, often killing and wounding civilian men, women and children, and as the news of the wholesale shootings by the rebels of persons in towns they captured, came through, reprisals increased. Rights and Fascists caught were often taken not to the Gobierno Civil, but for a *paseito*, the Spanish word which came into use for the American gangster phrase, 'being taken for a ride'. Unfortunately the Camino Nuevo, well in sight of my garden, was often selected for these murders, sometimes in the afternoon, more often by night. After a bad air-raid so many prisoners were taken from gaol, either direct to the cemetery, or to the courtyard, and shot.

There was a typical example of grim Spanish humour over the shooting of prisoners. An enemy aeroplane was called 'Jesus el Rico', from an image of that name carried in the Easter processions which when it came to the prison caused the release of a prisoner. Incidentally I must record that, as I heard many stories of mutilations and torturings,

I made a point of going to see the bodies (left at the side of the road for many hours) of persons that had been shot. There was no case of mutilation before or after death.

Our second air raid was on July 28, directed against the harbour. On July 29 another was directed apparently against the aerodrome at Churriana. There were two on August 4 at 5 a.m. and 11 a.m., a heavy one at 5.30 a.m. on the 6th, another on the 7th, and on the 9th very heavy bombs fell in the direction of the harbour, but close enough to make my house shake and bring down plaster from the ceilings. The attack on the harbour was repeated at 5.15 and 6.45 a.m. on the 13th, and the Spanish man-of-war *Jaime I* was hit, but was able to go on its own steam to Cartagena whence it returned, patched up, in a few days. On the 14th another raid shook down plaster from my ceilings and killed people in the town. On the 22nd I was sitting in the garden just after breakfast talking to the Mexican consul, who thought I could help him in getting an official seal to a document only superficially in order. A sudden raid came, and in a few minutes a huge explosion was followed by a mountain of black smoke and flame rising from Málaga. We rushed up the hill and saw that 'Campsa', the heavy oil and petrol central stores by the port, was on fire. We lay down flat for half an hour, expecting at any moment the petrol reservoirs to explode, and half the town to be blown up. By a miracle of dangerous labour the petrol was saved, and much of the heavy oil run into the sea, but for three days the Campsa smoked by day and glowed by night like a volcano. On the 28th there was a heavy raid about midday on the port, whilst I was in the street opposite the harbour entrance. Not at all pleasant. On August 30 a raid killed many people in the poor quarter near the station, and on August 31, full moon, there were raids at 9.30 p.m., 10.30 p.m., 11 p.m., and at

2.30 a.m. next morning, the worst of the lot, all four shaking my house and bringing down plaster.

On September 8, soon after lunch, a gigantic bomb was dropped on the eastern slope opposite me, but a little nearer the sea. My study windows were broken and nasty pieces of metal were found in the garden next morning. On the 21st there was an unpleasant raid early in the morning but nothing fell very close to me. On the 24th, just after lunch, we had our worst experience so far. Four large bombs crashed within sight, each throwing up masses of smoke and soil, one, the nearest, shaking my house as a terrier shakes a rat, breaking more windows and throwing out the tiles in the bathroom upstairs.

My servants had hysterics and it was all Doña Mercedes and I could do to soothe them. When it was over and I was alone with sweet old María, my cook housekeeper, I told her that it was bad enough for us, but that Doña Mercedes and Don Tomas had the extra fear of being shot after any raid. Her eyes flared. 'And they do well to be frightened,' she almost hissed out, 'for they are the criminals who have brought this misery on Spain.' And so the temper of the people rose. On the 26th we had another bad raid about 9 p.m., one of the bombs wrecking houses in the Calle Victoria, round the corner of the hill from me. Among them was the German consulate, but we heard that the German consul, as usual when there was a hint of trouble coming, had gone on board a German gunboat, and so escaped, rather to the sorrow of the people. Up to this morning, September 28, there has not been another raid. But Málaga, crowded with badly-housed refugees, is frightened; some culverts and some caves near me are filled with a miserable crowd of women, children and old men, by day and by night.

The importance of the raids to me was that it increased the difficulties and the danger of communication with our prisoner. I became an adept in getting access to the Civil

Governor, but, as his secretary frankly told me, an official order from the Governor had no authority over the patrols. I found the proletarian committees, especially the Committee de Enlace, a joint committee of the Left organisations, the Committee of Public Safety, and above all the Anarchist and Syndicalist joint organisations (F.A.I., C.N.T.) extremely kind and sympathetic, although they were the group most feared in the town. During this month I have been in close contact with them over the transformation of the B.s' house into a military hospital, and came to have a passionate admiration for the idealistic purity of their motives, their constructive schemes for the new order of society, their power of work and their audacious bravery. And every one of them knew that if the rebels triumphed they would have to shoot themselves or be shot.

Especially after an air raid and the shooting of prisoners, it was often days before I could get news as to whether Don Tomas were still alive. For about a fortnight a surgical dresser who was allowed to the prison professionally helped us at great risk to himself, but he, poor lad, was killed by one of the bombs which fell near the port, and for the most part I had to manage as best I could, largely by bluffing. But I got rather urgent warnings from more than one of my armed friends that I was making myself a little conspicuous. A brain-wave came. Doña María, the grandmother, was English by birth; I got a certificate from Clissold, the acting consul, who (although oppressed by demands from outside for information about individuals, harassed by British subjects who wished to get away with all their baggage and expected him to arrange their passes, provide a warship and collect them personally from their houses) was unwearied in efficient kindness, saying that the lady had resumed her nationality. Next I wrote a letter to the Governor from Doña María saying that she, a British subject, was anxious about the health of her son-in-law who

required regular surgical treatment for his chest, and could she send in a doctor to see him? Clissold enclosed the letter in a personal note to the Governor, armed with which I got an interview during which the Governor himself telephoned to the prison (we had had no news for three days) and gave the necessary permission. The doctor gave an excellent report, on the strength of which, after another interview, we got Don Tomas removed from prison to a small hospital near my house. He was watched by two armed guards, and most of the patients were wounded soldiers still with their revolvers. But we could visit him as much as we pleased, take him all that he needed, and before long he had made friends with several of the wounded men. Things were much better, but very naturally after his long time in prison, during which very often friends of his were taken out to be shot, his nerves had gone, and now and again, especially when persons dying or badly wounded from a raid were brought into the hospital, he broke down completely, and once or twice made his very brave wife break down. They were almost inclined to think that if I pushed the consul hard enough I could get them out of Spain. Bribery I would have nothing to do with; if for no other reason than that people who take bribes cannot be trusted, and I heard of cases where large bribes had been paid and the persons had been shot on their way to the port. But as I became more intimate with the Anarcho-Syndicalist group, I got first what amounted to an absolute guarantee for his personal safety so long as there was any order in the town, and eventually a very great hope for a pass out of Spain for Don Tomas and Doña Mercedes. But we had bad luck; on two occasions, just when the pass was going to be sealed, a very bad air raid took place, and it was entirely beyond the power of even the most influential and most feared people in the town to have the pass sealed, or even if sealed, to get the people safely on board the British

launch. But I have been promised permission to bring Don Tomas to my house, so that he and his wife may live safely except for the risk of bombs we all run, and the risk of the town going mad, if the rebels come to attack it.

Since the outbreak, the British Admiralty has had a warship stationed here practically all the time, and rather more often than once a week it was possible for British subjects and other foreigners provided with exeunt passes to be taken to Gibraltar. As the danger became greater, the acting consul called meetings at the British Club, and, reinforced by official statements made by the captains of the ships and by one or two of us, all British subjects were urged, almost ordered, to take the first opportunity of leaving Málaga. My guests would not hear of being divided, but about the third week of August I said that we must get passes for Doña María and if possible for the five girls who, although Spanish, were not of age. With a good deal of difficulty I got the Governor's secretary to type out the order, but he insisted that he could not have it sealed unless I first got the seal of the Committee de Enlace. That was easy, and was done. But as things seemed a little quieter, and especially as Don Tomas was in the hospital where his children could visit him, we put off their departure until September 8. Then, when we were actually down on the quay, waiting to go into the British launch, the police official, who was in an unpleasant mood, refused to pass Doña María, saying that her change of nationality was not valid. Neither Clissold nor I could move him. I rushed round to the Gobierno Civil, forced my way in through the guards, and got the secretary to 'phone to the docks saying that the pass was valid. Then back to the quay; official still obstinate. I hurried to the Committee de Enlace, showed them their seal on the original pass and told them that the dock police were refusing to recognise

their authority. Quickly they typed, signed, and sealed a new order, and gave me a note telling the Governor to countersign at once, which he did, and all was well.

Looking through my diary (this is the 74th day of the troubles) I find it occupied by an amazing number of things, some trivial, some anxious, but leaving me less than no time to brood. Most tiresome were the various searches of the B.s' house, an enormous mansion, full of desks and cupboards, which would have taken a week to search efficiently. After the first two or three searches, chiefly in quest of hidden persons or arms, we gradually brought to my house prohibited books (by the various Army, Fascist and Monarchist propagandists), signed royal portraits, royalist badges, vestments, altar furniture, in case a search group with an objection to Catholicism should come. Other more suspicious objects I brought away and threw into the bottom of an old well in my garden. But nothing seemed to exhaust the numbers of objects which, although innocent in themselves, were at least compromising. Finally, there was a search during which I was really frightened, as a knuckle-duster and a steel whip said to be fascist were discovered, and it was only by some miracle which I don't quite understand myself that I was able to avert the crisis. Next day I insisted on making a search myself of all Don Tomas's private papers and removed an armful of what might have been compromising. But these troubles came to an end when the F.A.I.,C.N.T. took over the house as a hospital, and assisted us in storing everything not required in the chapel and one or two other locked rooms.

An even more constant source of trouble came from the many indoor and outdoor servants of the B.s. I have no doubt but that the B.s were good employers as employers go in Spain, but it was symptomatic of the Spanish upper-class tradition that not a single one of these servants could

be counted on for loyalty to their masters and mistresses, and most of them were actively disloyal. They came singly or in twos and threes, often supported by an armed friend, making claims that were sometimes just, sometimes preposterous. I had to be present at the interviews, and sometimes had to go to see the committees myself. More recently another trouble has arisen. A sister-in-law and her husband, soon after the February elections, had tried to go to Gibraltar taking with them a large number of valuables. They were caught; he was imprisoned for a time and was mulcted in a very large sum, but appealed, as there was a legal point as to whether the smuggled documents were negotiable securities. I fear, however, that they were both deeply implicated in the rebel plot, and in due course both were imprisoned. By some important private influence the lady was rescued from prison and a little later escaped to Gibraltar, giving her servants the impression that she was going only to an English friend at Torre Molinos, a few miles from Málaga. Unfortunately she had made no provision for her servants, who were left in this hungry town without wages, food or house. They came yesterday to see Doña Mercedes, demanding under open threats the address of their mistress, and as it is a serious matter to be in touch or supposed touch with persons in hiding, I fear trouble, and certainly more obstacles to another scheme I am building up, with little hope of success, for the honourable release of my two friends.

But there are odd things about the war. Although food is difficult, I was able to buy fresh pastries for the girls nearly every day. I had no difficulty in getting my typewriter machine adjusted after the babies had tried to play a duet on it, although it just missed a bomb on the way back. My suits go to be dry-cleaned and come back punctually, and my white collars are dressed at the

usual laundry. Most surprising of all, when my water supply failed and it became necessary to sink my well a further sixteen feet through hard rock, I was able to buy dynamite cartridges and to send off a charge twice a day, although every household in the valley must have jumped at the explosions! And my garden never has been more beautiful! A 'Jardin des Supplices' filled with colour, scent and fear.

It is now the last day of September and full moon. There was a new alarm yesterday morning, although by good luck it did not reach me. The Admiralty at Gibraltar wirelessed to the commander of H.M.S. *Arrow* to say that a rebel warship had passed eastwards through the Straits and might be expected at Málaga about 9 a.m. to bombard the town. The commander of the *Arrow* sent an urgent message to the consul, who by telephone, taxi, etc. collected the eight or nine remaining British subjects, the French consul, one or two French subjects, a Swede and one or two Americans, at a house not far from me, the idea being that a dash might be made to the beach where boats from the British ship might pick them up, if the bombardment were serious. As I was fairly near, he did not propose to 'collect' me until the last moment; and there was just a chance that in the confusion I might be able to pick up Don Tomas from the hospital on the way. But after two hours' waiting, another message reached him that the ship had gone elsewhere. It seems that most of last night the town was expecting bombardment, and this morning the rumours were stronger. But there have been many rumours.

I hope to send this to England to-morrow, H.M.S. *Arrow* taking it and most of the remaining British subjects to Gibraltar. As I may not have the opportunity of correcting the proofs of this book I wish to add that this chapter was written after and not before the Epilogue. The trying time I am passing through has not changed in a single respect the general views I set forward in the Epilogue. Notwith-

standing the grim deeds that have been done, I am sure that the Anarchists and Syndicalists of Málaga are fighting for the soul of the human race, for a possible future against greedy savages who are fighting, with the blessing of the Church, only in defence of their own unearned and undeserved privileges. And I am equally certain that, whatever happens here, the battle will be repeated in the United States and in Great Britain on a more terrific scale, unless those of good intention first take things out of the hands of the existing political groups.

Postscript, Written in London

After H.M.S. *Arrow* had taken off all but two or three of the British subjects still in Málaga, things were dismal. The Government warships had left for the north, rebel warships were near, and we were threatened from Seville with a bombardment of the town from the sea and from the air, and with an immediate invasion by land. My two refugees very naturally were in a panic, and even urged me to leave them to their fate. But the new Civil Governor was ready to be obliging to the English, and quite possibly might not realise that Don Tomas was still a prisoner. We arranged an appeal, supported by two certificates, that Don Tomas required an operation which could be done only out of Spain, and that his mental stability was in danger. The Mexican consul put it into shape; the British acting consul very kindly agreed to present the documents in his own name, provided that I took them to the Civil Governor myself and did my best to persuade him. That I did, and in twenty-four hours, to our great relief, we got the formal permission.

But two days afterwards a blow came. General Franco was insisting that all adult Spaniards who had contrived to leave parts of Spain which were in possession of the Government should at once re-enter to join his side, and the Government,

in view of that, and of the additional fact that Rights whom they allowed to leave almost invariably became violent and unscrupulous anti-Government propagandists, issued an order prohibiting adult Spaniards from leaving Spain. The Committee de Enlace declared that the Governor had no right to issue permits to leave Málaga. The acting consul very sorrowfully informed me that now he could not give the commander of the British ship the necessary assurance that the papers of Don Tomas and Doña Mercedes were in order. But I argued with him that as he had always refused to recognise any authority but that of the Civil Governor he could not admit the power of the Committee de Enlace to cancel a permit already given. As it was a case of life or death he agreed to take that view, but insisted that I must deliver my friends on the quay, as he could not use his official status as a neutral to pass them through the town and the closely guarded port gates.

Fortunately there were two or three days before H.M.S. *Ardent* was due to leave for Gibraltar, and time to work out a plan. Don Tomas and Doña Mercedes were well known by sight; to be arrested in the act of trying to escape would have been almost certainly fatal to them and very tiresome for me. But fortunately they were not in the habit of taking the air in the public places of the town, hatless and unsmart. Fortunately, also, Don Tomas had already strolled up to my garden from the hospital accompanied by his guards, and I got him to come once or twice alone, his guards preferring to take an hour or two off with their own companions. On the last morning he came up alone and waited at one side of the garden, whilst down below my front gate I put in a waiting taxi their coats and hats in three small bags, each conspicuously labelled in my name. Then we got in, I very much the traveller in overcoat, muffler and hat, they very much casual strollers. I bade the driver stop at the post office, which is opposite a shady public promen-

ade with seats. At the post office we got out, and for the benefit of the driver, whose taxi had the anarchist flag, we had a touching farewell with cries of 'until Christmas' and so forth. I got into the taxi and gave the order to drive to the port whilst they crossed to the Park, and in accordance with directions joined the morning strollers, and sat down on a public seat, doubtless for the first time in their lives. As I expected, I was stopped at the port gates and the door of the taxi opened by the armed guards. But I was English, and they waved me on without more than a glance at the modest luggage. We drove on to the customs, where I deposited the bags and my hat and coat, dismissed the taxi, and then, a casual stroller, idly watched some fishing-boats until a chance came of strolling out again unchallenged. Then I found my friends, naturally very disturbed in mind. We moved to a seat nearer to the port gates and, to fit better into the environment, I called a shoeblack and we had our shoes polished. Then came a lucky chance and we were able to pass through the gates, nearly to safety. Before long, thanks to the two consuls, they were passed through to the British launch and swiftly taken to the H.M.S. *Ardent*, which was lying outside the harbour. I had an anxious twenty minutes waiting for the last trip of the launch, as trouble had arisen with the officials, but the commander had promised me that once on board his ship my friends were safe. Before long I too was in the care of the British Navy.

I finish this chapter in London, after all. I was depressed at having outwitted my kind anarcho-syndicalist friends, who had helped me to the limits of their power. But I was a little vain about having completed a task, although not one of my own seeking, and I rejoiced that the 'babies', with whom I had fallen in love, had recovered their parents. But to my humiliation and grief, the B.s quickly re-entered Spain, to the rebels' side.

Chapter XXI

Epilogue

★

I had not thought to have used so sour words, but where a wand cannot rule the horse, a spur must. When gentle medicines have no force to purge, we must use bitter potions; and where the sore is neither to be dissolved by plaister, nor to be broken, it is requisite, it should be lanced.—John Lyly, 1580.

My Uncle Gordon, who lived to a great age in a Highland parish, was accustomed to deplore the infidelity of the age, and to explain it. If people stayed at home they could see the faith in which they had been nurtured as an efficient censor of conduct. Those who were firm in the tenets and obedient to the precepts of their Church were decent men and good citizens. They had no need to probe into doctrine. The wayward in life were often slack in belief, and were disposed to excuse their own conduct by timid scoffing. But those who went out into the world had to face a more cunning wile of the Devil. They found persons obedient to other forms of religion, living, to all appearances, quite good lives. It went further. Roman Catholics and even Unitarians not only did not follow the Protestant religion but thought it heretical or erroneous, and yet might be kind, trustworthy, and what, superficially, would pass for God-fearing in the Highlands. Could it be that one religion was better than another, or indeed, that the practice of religion was the means or a means of good life? They were on the broad path that led through indifference to infidelity!

I doubt if my uncle were a profound theologian, but he was a shrewd observer, and it may well be that his theory applies to more than religious belief. It takes a robust, even a case-hardened, faith to survive the comparative method,

and a rolling stone, whilst gathering no moss, may scrape off the facets of its individuality and become an amorphous pebble of little use in honest concrete. Looking back on my own life, I see myself as a rolling stone, a voyager, outsider if you like, nearly always. At school in Aberdeen I came as a stranger into a coherent class; at the University of Aberdeen I was a year before my time, and at Oxford a year after it. In Germany and France and Spain I never had the facility of speech, although I worked at the written language. As a teacher and lecturer in London, I was more interested in research and writing, but even research could not be my chief occupation. As a journalist I was an amateur, in the War Office a civilian, and even in the Zoological Society I was carrying out work that was new to me. I do not admit that any of my work has been superficial. I have always done my best in everything, and I have been fortunate, not only in the capacity for work, but in being able to pass from one occupation to another with the comfort of passing from work to play, or from play to work. But, like many practical realists in whose mental constitution there is an element of mysticism, or perhaps only of agoraphobic vanity, I never have been quite convinced of the reality of the plainly real, and have had my own secret garden filled with peace and vague wisps of beauty. I have been a stranger, looking on the occupations of myself and of others with a complacent indulgence, not sure that they mattered much, and so probably with eyes myopic to their real significance.

That is a wordy prelude to two things I wish to say. First, in my voyage through life I have received so much hospitality that I should hate to think I had betrayed it. And so let it not be thought that such comments on men and things as have appeared in this book are considered assessments; they are no more than shifting reflections from the blurred facets of my own individuality, and where they are

unpleasing the fault is as likely to be in the instrument as in the thing reflected.

But the second is considered, and will occupy the rest of this Epilogue.

Like some of my own generation who can consider themselves members of the educated classes, and like more of the post-war generations, I have passed to what, in political language, is called the extreme left. Let it be admitted that amongst us there are some who by accident or by nature are misfits, and are critics of a system of civilisation in which their merits have not found sufficient scope. I cannot have that charge brought against me, or that extenuation pleaded for me. True, obstacles have diverted my path, disappointments have come, and some of the heart-stopping tragedies which are the common lot. But, without unusual advantages, I have contrived to adapt myself to existing civilisation, and have warmed both hands very comfortably before the fire of life. There has always been sufficient work for me to do, and very generous appreciation of it. Always I have had to adapt comfort and pleasure to such money as I had, but I am not sure that there was less joy in a push-bicycle than in driving a fast car, or that the green flash of a sunset on the Dorset downs is a meaner pleasure than to lean over the terrace at Monte Carlo. I prefer jam, but when there is no jam, bread is appetising. There have been many helping hands, but there have been opportunities of helping others. I have often been 'scored off', but have also taken scalps. In short, I have no personal grievance against life. But I have come to opinions, and am now free to state them, which many of my friends, quite justly from their point of view, call 'red', 'Bolshy' or subversive.

I do not think the War a sufficient explanation of our disjointed times. Four years is a very small fraction of the life of our cracking civilisation, and we know that there have been several civilisations which lasted thousands of years

and have disappeared leaving only broken fragments of beautiful things in ruins silted over by the careless dust. A million men, killed in the War, leave memories no greener than those who die in peace. They are dead, and their places are filled. The war-wrecks are dying out, and in any case they are out-voted and out-voiced by those to whom the War brought advancement, in honour, in position or in money, or in all of these. And for the mass of the population, men and women, can we say that the War left an evil memory? For the first time in the history of Great Britain, the holding classes found that they had need of the whole population. There was work for everyone, no unemployment, good wages. There was food for everyone, no men and women dying of starvation, no need of charity soup-kitchens. And can those of us who were neither daily wage-earners nor in the fighting ranks say honestly that the memory of the War is wholly unhappy? True, we had our sorrows and our losses. But is it a greater grief to have a dear friend killed in the War, than to have him run over in the street, or die of cancer? In actual fact, were we not more than fully occupied, mentally and physically, through the years of war, dressed in a little brief authority on committees, proudly doing more than our usual duties to carry on for those who were at the front, serving soldiers at canteens, and one way or another rather complacent? And on the emotional side, the poets were throwing lovely wreaths of words on the tombs of our dead, the Churches, as in all the combatant countries, were blessing our arms, and we were comforting ourselves, as in every combatant country, with the belief that our war was just and inevitable.

No, it is not from a post-war neurasthenia that we challenge the structure of our civilisation. It is because we have lost hope, some of us consciously, and great numbers apathetically.

We have no hope in our politicians. Almost from Armis-

tice Day they began to build up Europe into an even more unstable equilibrium than that which led to 1914. They have intensified the most short-sighted and selfish side of nationalism. They have raised barriers against the exchange of goods and food and services between the nations. They have threatened when they feared to act, and they have floundered and blustered when their threats have been defied. They still believe that peace is guarded by armaments, and although they cheerfully propose a loan of hundreds of millions for armaments, they shake grave economic heads against proposals to borrow enough to give men houses, or to stop unemployment. They have allowed schemes of reconstruction to be wrecked against vested interests. And most disastrous of all when men and women and children are hungry for all the kindly fruits of the earth, the political remedy has been to limit production and distribution. Never was there a more reckless sabotage of civilisation, a more wicked sacrifice to the idol Mammon.

But let it not be thought that this is an attack on any system of government or on any political party. The evil lies deeper. Under a monarchy with just and kindly sovereigns, as in Great Britain, Belgium and Holland, under the republics of the New World, in France, there is the same loss of hope, the same apathy qualified only by fear. And let him who will, see hope in Italy or in Germany. Civilisation is not to be saved by a reckless war of aggression, or founded on an old and meaningless theory of race. And as for political parties, national governments seem to cohere only by prejudices and a community of interests, labour governments by prejudices and a disparity of theories. And when a good man like George Lansbury uses temporary power to provide means of pleasure for the poor and the children, rich London cries out against his spoliation of the parks, or when he suggests that the application of the Sermon on the Mount might serve a purpose in international

politics, he is blandly pushed aside by the hierarchs of the Churches. All are agreed that he has a good heart but has a slow brain. There would be hope if amongst politicians there were more good hearts, and fewer cunning brains.

We are a little tired with schemes for the rationalisation of industry, the nationalisation of banks, the extension of subsidies, and the more fanciful modes of trimming capitalism with new colours. Communism has too many meanings, syndicalism is too narrow, and anarchism on its constructive side implies a perfection of which human nature has shown little sign.

Least of all does religion seem to help, for in every form and every age it has been able to accommodate itself to the cruelties and follies of political systems, and its habit of blessing war is at least as comic as are the chapels attached to bull-rings, where the matadors dedicate their swords to their favourite Virgin. But apart from its practice, the assumption of unique supernatural origin of any religion, or of all religions, has almost vanished, and the organisations seem to flourish just as well, but no better than Christian Science. There seems to be no tenet on which the Christian Churches can agree, if it be stated in plain language and interpreted without reserves and subtleties. And even the Churches coquet with 'spiritualism', miraculous healing, and so forth.

They contain men who are good and able, and their failure to agree on a plain statement of their creeds means that such a plain statement cannot be written. But the habit of being content with formulae that mean different things to different people has passed from religion to infect politics, national and international. More than half the charges of breaches of faith come from it, and permanent distrust has been created by the slack or cunning attempts to pour the oil of words over troubled waters. Nor is there a satisfying substitute in the deism of the modernists, a religion

nominally cleaned of the historical ritual and superstitions to which the Churches have turned with an eagerness increasing as the intellectual basis of their beliefs has fallen from under their feet. A bald deism failed in the fourth century of the Christian era, and still more notably in the eighteenth, when even Butler could refute it.

We have passed beyond the religion of humanity, attractive to us in the days of our youthful hope in liberalism. There was no more gorgeous statement of it than was written in his essay on Voltaire by 'Honest John' long before he had become Lord Morley:

'There are new solutions for him, if the old are fallen dumb. If he no longer believes death to be a stroke from the sword of God's justice, but the leaden footfall of an inflexible law of matter, the humility of his awe is deepened, and the tenderness of his pity made holier, that creatures who can love so much should have their days so shut round with a wall of darkness. The purifying anguish of remorse will be stronger, not weaker, when he has trained himself to look upon every wrong in thought, every duty omitted from act, each infringement of the inner spiritual law which humanity is constantly perfecting for its own guidance and advantage, less as a breach of the decrees of an unseen tribunal, than as an ungrateful infection, weakening and corrupting the future of his brothers. And he will be less effectually raised from inmost prostration of soul by a doubtful subjective reconciliation, so meanly comforting to his own individuality, than by hearing full in the ear the sound of the cry of humanity craving sleepless succour from her children. That swelling consciousness of height and freedom with which the old legends of an omnipotent divine majesty fill the breast, may still remain; for how shall the universe ever cease to be a sovereign wonder of overwhelming power and superhuman fixedness of law? And a man will be already in no mean paradise, if at the

hour of sunset a good hope can fall upon him like harmonies of music, that the earth shall still be fair, and the happiness of every feeling creature still receive a constant augmentation, and each good cause yet find worthy defenders, when the memory of his own poor name and personality has been blotted out of the brief recollection of men for ever.'

Fair words which beguiled us. But there must be newer solutions for us. We see now that death is seldom the 'leaden footfall of an inexorable law of matter', but comes intermittently and dramatically by man-made wars, steadily and stealthily by an ignorance which starves research and its applications, and still more by the careless concomitants of capitalism leading to starvation, to under-feeding, under-housing, the depressions of unemployment, the absence of joy.

What trace is there in our modern civilisation of the 'perfecting of the inner spiritual law'? Is it in a great ecclesiastical corporation standing on its legal rights and expending its funds on building new churches in the suburbs when it is besought to restore at least a part of them to the depressed areas from which they were drawn? Is it in temperance fanatics opposing the improvement of public-houses or the sale of drink in gardens lest the consumption of alcohol be increased? Or in brewers trying to suppress the clubs of the poor lest they should be rivals to their own bars? Is it in the bills or the contents of our great newspapers? Is it in the opposition to reform of the divorce laws or to the spreading of competent information about birth-control? Is it anywhere in our commercialised civilisation? Are the people in our slums comforted by reflecting on the 'overwhelming power and superhuman fixedness of law', or at the hour of sunset are they worrying over the 'memory of their own poor name and personality?' Blimy! John!

But let us pass the details. The whole is an expression of the complacent individualism of Victorian liberalism. It depicts a world in which high-souled snobs, very conscious of the benevolent integrity of their purpose and of their lofty stoicism, shepherd baser men, defend causes which *they* know to be good, and, within reason and in full deference to economic law, do what they can for the toiling masses. And so also there were conscientious, high-minded slave-owners, God-fearing men, resolute that their active slaves should be well-fed, their aged slaves kept from starving if they had not happened to sell them cheap in time, anxious that the discipline of the overseers should not exceed necessity, and with a prejudice against interbreeding, as the children, technically slaves, were a problem.

They set an example to more selfish owners and were prepared to be severe with them, sometimes even defying the courtesy which one white man expects from another. Above all, they were certain that these poor blacks lived happier lives under wise and kind masters than if left to their unfettered instincts and natural sloth. And so, when the struggle for liberation came, even the best of the owners stoutly resisted it, probably seldom from mere self-interest, sometimes from fear of disturbance of the social order, but always in the certainty that slaves would be less happy under freedom.

I do not know that the comparison is wholly fair, but at least it serves to explain why we have lost hope in liberalism. On almost every critical occasion we have seen it faltering in the path of progress, hesitating before the fear of shaking the existing order of society, not, I am convinced, from mere selfish self-interest, but from an indurated conviction that what the people require is wise leadership. And we see to what a pass wise leadership has brought us. Conservatives, I do not doubt, are as often benevolent as other people, but by their instincts, beliefs

and traditions they are inextricably involved in the existing structure of society. I have always voted for the labour party, and probably shall continue to do so, but it is still deferential to the opinions of those whom it thinks better educated, and I fear that in any crisis it might again be scared into saving the country by joining a 'national' government.

I see only two modes by which civilisation possibly may be preserved from perishing in a rapid and premature senile decay. The first is ruthless tyranny; the suppression of free speech, even of free thought; the brand of social obloquy for those who do not think 'rightly' and act 'rightly', and the careful selection of those who do; the employment of all the terrific armaments which science has placed in the hands of governments, to stamp out rebellions, leaving to rebels only the inefficient and capricious weapon of assassination. It could be done; it is believed in as a theory and has been put in practice not only in past history, but at present. And even the gentler governments lean towards it in emergencies, such as a war or a strike. In its milder forms, under the pleasant name of 'Maintenance of Public Order', or the prevention of sedition, it can make an easy beginning. Under it, religion might flourish, if only the tyrants could agree which religion to acknowledge; and the State Church would bless the wise rulers and reprove the disobedient. Under it, research would flourish, giving such material benefits to the people as might be judged good for them, and making the rulers still more impregnable. Under it, art and letters and music will flourish, and poets will sing! Captive song-birds, if well cared for, sing well, and, although I do not believe it, are reported to sing better if they are blinded. And when the rebellious strains have been pruned out, the mass of the people will be placid, domestic stock going to their easy toil and pleasant mangers and pastures. I do not foresee any

great difficulty in imposing such a form of government on an apathetic people. But would the civilisation so preserved be worth preservation?

There are many worthy persons, amongst them personal friends of mine, who still believe that civilisation may be saved by a wise benevolence, by their wise benevolence. Before I had finished writing this Epilogue, I read *The Next Five Years*, which purports to be a policy for the immediate future on which 150 persons of good intention, drawn from different political parties, could agree and might therefore be able to impose on the nation. They have played a game of 'kiss in the ring', delicately avoiding one another's toes, seeking compromise, if only in words. And even compromise has not been successful, for the proposals are hedged with reserves, until almost the only suggestion against which there is no explicit reserve is that as a step towards peace 'Tanks should be limited in numbers, but in any case should not exceed a maximum weight of sixteen tons unladen'. What would be the fate of this 'compromise' programme were it subjected to the rough-and-tumble of party politics, to the astute agents of vested interests, or even to the bewildered emotions of the ordinary man and woman, who in their bedevilled masses in nearly every country wish for nothing more than to live and to let live, and can see in those who rule them neither faith, nor hope nor charity? No faith in God or in their fellow-men; no hope save in armaments; no charity in the lovely sense of that lovely word, but only as doles, as meat fouled on the altar of Mammon.

We need less and more. Less, because in the swift changes, national and international, through which civilisation is hurrying downwards, a programme often loses its value whilst it is still being discussed. More, because we want a standard based on hope, faith and charity, against which every new step can be judged, a goal towards

which we must press, an inspiring ideal, not a set of halting steps.

Can such an ideal be found? I believe so. It is neither new nor abstruse. It is no more than that neither the whip of necessity nor the spur of gaining greater spending power is a wise or necessary stimulus to any work, and that both are harmful to the best work. It was implicit in the doctrines of the Fathers of the Church, who hated money and finance, called the empire of capital 'fuel for the fires of Hell', believed that unearned increment, whether the result of astuteness or chance, or in the form of interest, was a corrupting sore, and that the 'law' of supply and demand in its application to the reward of labour or the prices of commodities was a foolish and despicable conception. I do not doubt but that the ideal will encounter difficulties, too profound for us to foresee them; perilous because the changes would encounter violent opposition from the selfish and deep concern from almost everyone; insecure because it is based on the theory that a belief deeply rooted in our system of morality and of economics is erroneous.

But William Godwin, a true mystic whose faith was rooted in the practical, not one of the introspective neurotics who pass as mystics, believed even in his day that the leaven of a generous ideal might and would come to leaven the whole mass. And to-day the masses of the people in every country are more disabused of the old ways, more restless under the disabilities of their lot, more self-consciously despairing, and so more ready to accept a new hope. If civilisation were to be a slave-civilisation, as it is, under masters however benevolent, the slaves should not have been taught to read and to write and to think. But if the Avatar be introduced as a persuasive force, and not by fire and blood, as Pope Gregory, and the Inquisition, and the Nazis have sought to enforce their doctrines, then there is hope. I believe that it would be found congruous with the

psychology of every person of good intention, free life from much of its bitterness and absurdity, and make a cleaner and happier world.

Even at present the best work is seldom done for money. Does a young politician in parliament or one on the way to cabinet rank adhere to his high purpose because greater financial reward is a lure or a need? No: if it is money that is the bait, he must trim and shift, climb over or creep round his rivals, pander to his superiors; the road to office is then paved with discarded principles. Has any poet written undying verse, any musician great music, because these were more lucrative than patriotic ditties or catching tunes? In pictorial art it is notorious. Let a painter become a fashionable maker of portraits, and he takes the easy and meretricious way. In science, the finest work has never been done for financial reward. Some, like University professors, are paid for their teaching, and when they pass into the research laboratory are blind to the glitter of gold. Others, like Pasteur, or Metchnikoff, or Alfred Russel Wallace, never thought about money, had they enough to eat and to clothe themselves. Others, like Darwin, never had to think of money. In letters, let an author become a 'best seller' by accident or by the congruousness of his mind with that of the public, and he goes on trying to remain a best seller.

But it is not merely that the lure of money leads a worker directly away from his best work. There is a more subtle evil. The world is apt to judge of the value of work from the financial gain it brings to the workers, upon whom the false standard reacts, tempting them to adapt their work to the market, and to judge their own value by their financial success. Even without such conscious effort on their part, the commercial standards select and encourage those with any natural weakness, any tendency to slide over into quick ways of gaining reputation. These come to share the belief of the world that a professional man, surgeon, physician,

lawyer, or architect, who has not his place of business in the most fashionable quarter, his style of living on the most luxurious scale, must be inferior to those of richer life. Up go their expenses, up their charges to their clients, and down the time they can give to honest work. The chains of their slave labour are gilded, but remain chains.

I am sure that I differ very little from the average of what may be called professional men and women. I am equally sure that the effort I have put into the work I have done has had no relation to the money it would bring. The standards of expenditure for which we have to provide are not intrinsic; they are imposed on us conventionally, varying with the kind of work we do, more often a necessity than a joy. And I am equally sure that our expenditure on pleasure depends more on acquired habit than on value to ourselves.

It will be said with justice that individual jealousies and rivalries will survive any change in the conditions under which men work and live. Agreed. But they will be cleaned of all their less generous side when they cease to be stimulated by the quest of money, and will leave a freer scope to the ready exchange of help and encouragement which exists even under present conditions.

But how are leisure and the vast cost of laboratories, plant and apparatus to be found in a decapitalised organisation of society? I foresee no difficulty. The principle of providing laboratories and plant, and of setting men and women free from the cares of earning their livelihood is already accepted, and is bound to be put in practice more and more, even under the present order of things. It would be greatly accelerated as the new order was approached. Even in Soviet Russia, which began under circumstances in which only manual labour was a condition for citizenship, and which has had to struggle for its existence against the hostility and disapproval of the other nations, opportunities for research, not only in matters deemed of im-

mediate practical value, are being provided on the most lavish scale, and the researchers are set apart for their work. They too, like the officers of state, doctors, musicians, theatrical artists, although their actual wages and private standard of life may differ in no respect from those of manual labourers, are provided with all the amenities useful or necessary in their special occupations. As for those who wish to be poets or writers or scientific researchers and have not yet proved their value, I can see no detriment to their development nor offence to their dignity if in the meantime they earn their living by a few hours a day in some simple toil. Faraday began as a bottle-washer in a laboratory, Burns as a ploughman. Perhaps under present conditions there may be even a majority of the more valuable or efficient workers whose zeal is in proportion to their financial reward or their hope of greater financial reward. But it is not rooted in human nature, and there is at least a large minority, even in the commercial world whose work is most closely related to money, from whom the best work comes without bringing a larger gain.

Now comes the more anxious question of the toiling masses, the great proletarian army, black-coated, brawny-armed or nimble-fingered. There is no belief more widely spread or more firmly rooted in the non-proletarian classes than that need is the mainspring of labour. 'If a man will not work, neither shall he eat.' It has the advantage of a moral justification in many eyes. And unless a man will work better or harder than his fellows, neither shall he eat better. How can you expect a man to try to do his best except in the effort to keep his job or to increase his wages? Even the trade unions, in their heroic struggles against the masters, have had to rely on the economic argument, directly, to improve the conditions for those already in work, and indirectly in limiting output. Certainly hunger and fear and love, the directing forces of the animal world, except in the

case of parasites who have come by easier ways of satisfying these wants, and, concomitantly, have degenerated, have been carried over into the organisation of human society. Remove them, and will not the proletariat be as idle and as careless as the idle rich? I do not think so. Even under the temptations of unearned wealth—and who is so sure of himself that he does not admit them?—the rich are not all idle. From them, as I have already said, there comes much excellent voluntary work. True, they do it, within limits, in their own time; true they have pleasant relaxations at their own choice. But in a well-ordered world there will be leisure for all; I am told that four hours' compulsory work a day would fulfil the needs of the world, and that leaves time enough for pleasure. Even if the hours have to be longer in the transition stages, provided that they are reasonably equalised, there is no great hardship, and plenty of time left for the varied pleasures and amusements that a well-planned State must provide free. Work, the use of body and brain in varied proportions according to the varied dispositions of individuals, is as much a primary instinct as are the satisfaction of hunger, the avoidance of danger and the appeasement of sex. The gratification of instincts is a necessary part of sane and healthy life.

But how about the choice of work? Who are going to do the distasteful things? I doubt if there is any kind of work distasteful to everyone, especially if the false standards of social appreciation are removed, if after the daily task is done the worker is as free and as reputable as any of his fellows. There are people who like monotonous work which can be done even in a day dream; there are people who like rough work, or dangerous work, or delicate and fidgety work. And it is the business of organised science and a system which curbs commercial greed, to lessen the dangers and improve the conditions of all kinds of work. There may remain some tasks which would seem revolting to al-

most everyone, as for example the examination of putrid bodies. But in a piece of research which occupied my leisure for years, my material was the intestinal tracts of creatures which had died at the Zoo, and offered every kind of loathsome odour. I have gone out of the laboratory to vomit, and come back cheerfully to my job. If a poet can interpret the cleansing of the Brighton beach after a Bank Holiday, as part of the

priest-like task
Of pure ablution round earth's human shores,

I do not see why a poet or a parson should not find it equally priest-like to help in cleansing the London sewers. But it must be a real service, and not a gesture in vestments.

Even in our civilisation ruled by false ideals, international jealousies, all the black spells of the god Mammon, there are spasmodic movements towards a reorganisation of society in which money is not a good in itself, but a mere algebra of distribution. But there are few signs of the movements being swift enough, bold enough or self-conscious enough. I believe the choice lies between accepting and striving towards an equality in the distribution of the work and the pleasures of the world, and a swift plunge into an equality of destruction more horrible, physically and mentally, than the most ingenious pictures of hell imagined by the Christian religion. It will come through war and the chaos of revolution which will accompany war, when those who have not prevented it find that not only on professional soldiers and sailors, and airmen, but perhaps first on the 'civil' population, including themselves, will fall the rain of fire and poison, the writhing, vomiting pangs of scientific death.

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